

The Newport Papers

GLOBAL WAR GAME



Bud Hay and Bob Gile



NAVAL WAR COLLEGE
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The First Five Years

Bud Hay and Bob Gile

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Fundamentally, this type of worldwide tabletop game has obvious potential for further development. Such a summer project could evolve into a productive and popular annual exercise.

Hugh Nott, with reference to the 1979 Global War Game

Note to the Reader

This report deals with practical issues and major themes as identified during the first Global War Game (GWG) Series. Its focus is on various general topics, specific force employment issues, and game histories. Because of the interplay among many themes and issues, some repetition is included to provide a more complete discussion.

The GWG series was conceived in 1978 to build a structure to explore warfighting issues and to provide a larger perspective than the tactical view that was prevalent in the Navy at that time. The domain of research for this project ranges from policy through strategy to operations (campaigns). It was and is an opportunity to investigate ideas and concepts that may vary from current strategy or policy wisdom. With the understanding that these simulations were but an approximation of the behavior of governments facing global war, the scenarios should be considered as a context for issues to be explored. The first game had a specifically Navy focus, but the series quickly evolved, by obvious necessity, into a much broader military and political forum. Throughout the first series, GWG was utilized as a test bed or crucible for an emerging maritime strategy. Both developments were smiled upon by then Chief of Naval Operations (CNO) Admiral Thomas B. Hayward.

Effort has been made throughout this paper to preserve the terminology that was in use when the games were conducted. This report endeavors also to relate faithfully actual strategies and operations as well as the rationale behind them. Thus, while some of the terms may seem archaic and some of the operations ill-advised, it is necessary to look at these early efforts as a learning experience that reflects where we were when the games started and how far we have come since then.

The second Global War Game series, 1984–1988, was conducted as a natural continuum of the first series. Its purpose was to explore issues involved in waging protracted warfare in the decade of the 1990s. The third series, beginning in 1989 and finishing in 1993, has focused on the changing world political, military, and economic relationships. It is anticipated that unclassified reports similar to this one will be published covering the second and third Global series. A fourth volume is planned that will deal with game organization, mechanics, and administration.

Executive Summary

Global War Game 1979 was the start of the first five-year series of global games that explored conflict in a worldwide setting. These games focused on developing insights into how maritime campaigns might be conducted on a global scale. Consequently, the emphasis in this first series was largely naval. However, as the series progressed, it became clear that naval play could not exist in isolation and that political actions and the activities of other services impacted heavily on the decisions for maritime force employment. Therefore, both interservice and intraservice participation, as well as civilian representation, were increased in order to provide a broader perspective. Initially, advice and assistance were solicited from the Army and Air Force regarding methods to make the game more realistic. Both services provided full cooperation, particularly the respective war colleges at Carlisle and Maxwell and the School of Command and Staff at Leavenworth. By the end of the first series, the focus of the military play was clearly joint, with the Army and the Air Force sending large delegations, which were fully integrated into the play of the game in all its aspects. The second five-year Global series, building on this foundation, stressed all aspects of military operations.

The first year of play saw a Blue defensive mind-set with a doctrinaire Red who was aggressive and determined. Each year following produced a more aggressive Blue and a more interactive Red. By the end of this series the realism of game play had progressed to a level that was more representative of the decision processes to be expected in a superpower confrontation.

Blue's initial defensive mind-set resulted in part from a combination of unfamiliarity with a global scale of conflict and an alignment with an alliance (NATO) whose objectives were purely defensive. The shifting to the offensive began to occur as players discovered that maritime force survivability in the forward areas was in fact much higher than originally envisioned. A more aggressive strategy in support of a Eurocentric war produced more success and proved the clear choice for optimized employment.

As the series developed, escalation dominance was at the forefront of thought. Players explored it in terms of both the vertical (increased intensity of conflict) and the horizontal (war-widening). From a maritime perspective, the dimension that related most directly to naval employment was horizontal

escalation, where commanders searched for ways of applying pressure to Red away from the central area of battle. Although limited success was realized, the short duration of game play precluded measurement of successes.

The players' thinking shifted over time to the opinion that Blue/NATO would do better in a longer, conventional war. As the comparative advantages between Blue and Red became more fully understood, conventional war of extended duration appeared to offer Blue the best prospects for victory. Nuclear escalation seemed to work to Blue's disadvantage. Thus, if Blue/NATO could weather the storm of the short and medium period of conflict, the industrial might of the Western production capacity could be brought to bear.

The fundamental hypothesis that evolved early in the series and that came to shape the underpinnings of Blue strategy can be stated as follows:

- Blue/NATO appeared unlikely to win a short, conventional war in the central region, and
- There was a strong possibility that nuclear escalation would be disadvantageous to all involved.
- Therefore, a strategy that provided a better chance for Blue/NATO success was that of protracted, conventional war.

Issues of particular focus included the following:

- The absolute necessity for the prompt use of strategic warning.
- The requirement to examine military strategies for protracted, conventional war.
 - The need to explore the longer term effects of horizontal escalation.
 - The central importance of preplanning for resource management and industrial mobilization.
 - The benefits of early identification of technological needs and the organization of the scientific community to support initiatives of "Manhattan Project" stature.

In the realm of warfighting, the Global War Game series demonstrated that while the Blue/NATO alliance has a defensive political orientation, offensive campaign options within the strategic defense may be effective in disrupting Red timelines and thus causing Red to revise prewar military objectives.

Series Development

GLOBAL WAR GAME '79 began the first of three five-game series that re-introduced a concept largely neglected since the 1930s, when the Orange war plans were gamed at the Naval War College (NWC). The first series of five games played out five Blue/Red scenarios with force levels and equipment postulated for Blue and Red in the year 1985. Each game was a separate evolution rather than a continuation of the previous year. Although the scenarios did not tie directly to each other, as issues were identified, they were incorporated into each follow-on game, forming a series. The combined effect was to establish a longitudinal approach which examined problems over time and allowed intervening study to address specific issues.

This “game-study-game” concept, which evolved during the first GWG series, was to become a most important aspect of the second series. Issues raised in one year’s game could be studied and researched during the intervening eleven months and the results incorporated into the succeeding year’s game. This process was greatly facilitated by the presence of Army and Air Force officers at the Naval War College. Their work, along with that of their naval and Marine Corps contemporaries, often in interservice combinations, contributed importantly to both game development and the attainment of game objectives.

The first game was held in the summer of 1979 at the Naval War College under the sponsorship of the Center for Advanced Research. It was structured as an experimental concept with limited personnel and material resources. Scenarios and strategies appropriate to worldwide conflict were developed, and, because of the experimental nature of the undertaking, a manual chart-type game format was selected. Some fifty officers (mostly Naval War College students) and a half-dozen senior defense officials participated. Initially there was concern as to whether this level of participation was sufficient to execute properly a game of global scope. Global War Game '79 was in fact more successful than expected. However, it was also evident that a more thorough examination of global conflict was required and that the effort needed to be populated by more senior players and experts.

The objectives of the series were expressed during the first game and remained constant throughout. The overriding objective was to gain insights into how naval campaigns might be conducted on a global scale in the event of conflict between the United States (Blue) and allies and the Soviet Union (Red) and satellites. Other specific objectives included the derivation of insights into:

- The priorities of sequential operations.
- The adequacy and form of logistics systems to support extended/prolonged and diverse naval operations.
- The impact of strategy and maneuver on force effectiveness.
- The impact of political/economic factors in developing strategies and vulnerabilities of such strategies to international and regional constraints.
- Loci of various nuclear thresholds in various theaters including rationale and concepts for escalation/de-escalation.
- Pattern and processes for control of military forces at national headquarters and tactical levels when combat activity is intensive and widespread.

From these modest beginnings, the Global War Game experienced substantial growth both in terms of personnel participation and in the level of sophistication. Midway through the first series, GWG had grown into a complex operation involving over two hundred participants from all the services, several intelligence agencies, and numerous government departments and agencies, and also officials and representatives of academia and industry. Experts were employed to ensure game fidelity in areas such as logistics, advanced technology, and command, control, and communications (C³).

Each game of this first series stressed strategy and maneuver. Standard data values and models of weapons systems and sensors were utilized to determine the outcome of specific interactions.

As its name suggests, the Global War Game is a large game, requiring many players and controllers. These participants are organized into six primary teams and several supporting tables. Primary cells are:

- Blue and Red NCAs (National Command Authority);
- Blue and Red CINCs (commanders-in-chief); and,
- Blue and Red players on the game floor.

Supporting tables covered such areas as logistics, weather, intelligence, and political/military decisions by nations not belonging to either the Blue or Red camp.

The Global War Game is a hybrid. It includes aspects of a research game, a logistics game, and an operational game. Both manual and automated gaming systems have been used in the Global War Games. As later games grew more

complex, there was a shift toward increasing reliance on computer-based systems. Whereas GWG-79 was essentially a manual game, GWG-83 included the new Naval Warfare Gaming System (NWGS), the U.S. Army War College's Theater and Corps Operations and Planning Simulation (TACOPS) model, and a number of smaller models used to perform several functions, particularly battle damage assessment. Some inputs for the GWG are themselves generated by computer model runs made prior to game start, e.g., logistics plans.

Game Scenarios 1979–1983

1979 The scenario for the first Global War Game was set in 1985. Consistent with the concerns over the security of oil supplies prevalent in 1979, the area of initial conflict between Blue and Red was Southwest Asia. An insurgency was in progress in Saudi Arabia, and international tension was high along that nation's northern border. Blue supported Saudi Arabia by sending a brigade of the 82nd Airborne Division along with a contingent of airborne warning and control system (AWACS) aircraft and an F-15 squadron. Two aircraft carrier battle groups (CVBGs) were transferred from the Indian Ocean to proceed around Africa to join the Atlantic Fleet. Worldwide defensive measures included the forward positioning of additional maritime patrol (VP) squadrons and the movement of two CVBGs from the East Coast to positions in the North Atlantic. As tension mounted, Red mobilized on 11 July. Blue responded with a mobilization on 18 July. Red increased naval deployments in both the Norwegian Sea and the Mediterranean. Concerns over the survivability of the CVBGs led to their withdrawal from the Mediterranean to join with the two CVBGs that had recently left the East Coast and were now in a position north of the Azores.

Hostilities began with the invasion of Saudi Arabia by four Iraqi divisions and one Soviet airborne division. Simultaneously, an attack was launched by the Warsaw Pact on the Central Front. Worldwide, Blue and Red naval forces engaged in a series of intense battles. Red sought to isolate Blue and her allies with a diplomatic offensive. France, Japan, Pakistan, and Algeria were offered incentives to remain neutral. Israel was guaranteed security from her Arab neighbors and an uninterrupted supply of oil in return for neutrality. The Red invasion of Saudi Arabia could not be contained by indigenous forces and in-area Blue reinforcements. Blue was compelled, therefore, to withdraw her forces to Israel.

Withdrawal of the CVBGs from the Mediterranean proved to be a political and military disaster. Without the power of the CVBGs, Red was able to overwhelm the regional Blue forces. Deployed Red Soviet naval aviation/long-range aviation (SNA/LRA) aircraft struck Blue bases throughout the Mediterranean

with deadly effectiveness. The U.S. naval air station at Sigonella, struck by both Red surface units and air attacks, was rendered totally unusable. Malta fell by the evening of the war's first day. Red land-based air superiority had turned the central and eastern Mediterranean into a veritable Red lake. Politically, the NATO southern flank unraveled as Greece and Turkey were forced out of the war and Italy lay open to attack.

Convoy operations were implemented, with two French CVBGs to augment the Blue forces that escorted shipping to Europe. A two-CVBG force achieved sea control of the Norwegian Sea, although the effort resulted in the loss of the USS *Vinson*.

An anti-SSBN campaign grew out of an overall Blue ASW effort. Red felt the need to respond to the depletion of part of its strategic reserve caused by the Blue anti-SSBN campaign and did so by launching tactical nuclear strikes against Blue's CVBGs. An SNA/LRA raid was launched from Luanda against Blue forces in the Atlantic and a second strike was directed against two Blue CVBGs in the Pacific from Vladivostok. This resulted in the loss of the USS *Kitty Hawk* battle group (BG) in the South Atlantic and the USS *Nimitz* BG in the Pacific. Blue had some difficulty in determining a suitable Red target to retaliate against, finally selecting a Red anti-carrier warfare (ACW) group in the Norwegian Sea. No other use of nuclear weapons occurred.

Due to the heavy commitment of Red forces to the Mediterranean theater, Blue chose to divert the four-carrier CVBF (aircraft carrier battle force) from a planned Mediterranean re-entry to support the Central Front. The land war in Europe was notionalized (prescribed) rather than played out in detail. The script postulated that NATO had managed to halt at least temporarily the Red advance and by game's end was successfully conducting counterattacks. This allowed the players to extend their timelines beyond the first few days of war.

As GWG '79 ended, Red sought a cease-fire that recognized territorial gains in Southwest Asia and in the eastern Mediterranean. Blue, while also seeking a cease-fire, was unwilling to recognize Red gains and believed it held the advantage due to favorable momentum on the Central Front.

1980 The 1980 game delved into a broad range of unexplored topics. Forces were hard-pressed throughout as a result of a strong Red strategic position combined with an aggressive employment of forces. However, as a game participant stated: "If the objective of the game was to try out strategies, identify key issues, undergo a concentrated learning experience, and, in the end, to come away with a much sharper focus on what global war might be like, then GWG '80 was a resounding success."

Largely because Red set Eurasia as its objective and discriminately used nuclear and chemical weapons at the outset, this game was fundamentally about escalation control rather than ships at sea. By its demonstrated will to use nuclear weapons coupled with Blue pessimism about the strategic balance, Red was able to force Blue to choose between surrender and major escalation at each level.

The 1980 game was based on an extensive, detailed scenario which covered multiple problem areas worldwide. Once again the setting was the year 1985, and the scenario postulated serious unrest in Eastern Europe with the loyalty of both East Germany and Poland to the Warsaw Pact increasingly in doubt.

Oil was a major factor in the 1980 scenario, which cast Red as a net importer of oil. The combination of this and the emerging crisis drove the price of gasoline in Blue to \$4.00 per gallon. Further impacting the oil situation was the occurrence of a coup in Nigeria, which then aligned itself with Red.

In the Far East, the People's Republic of China (PRC) and Vietnam were at war, while in Southwest Asia, Red, still involved in Afghanistan, was mounting sharp border attacks against Pakistan in reprisal for that nation's provision of sanctuary for Afghan "rebels." India had also begun to mobilize against Pakistan. Blue responded by sending five tactical air (TACAIR) squadrons, the 82nd Airborne Division, and a Marine amphibious brigade (MAB) to Pakistan. During this game, a bright spot for Blue was that relations with Israel, Egypt, Saudi Arabia, and Iraq had improved to the point that Blue could establish a major air base in the Sinai without disastrous political consequences.

As the crisis became more acute, Blue withdrew the forces previously dispatched to Pakistan and repositioned them in southern Iran and northeast Saudi Arabia with the aim of reducing the threat of confrontation with India and improving Blue's ability to defend the Gulf oil fields.

In this scenario, war resulted from a deliberate, planned decision on the part of Red. It was both opportunistic and conservative. Red leaders felt they were in a favorable military position vis-à-vis Blue, and this, coupled with increasing Warsaw Pact dissidence on the one hand, and the growing need for oil on the other, was sufficient to provide motivation for the seizure of Eurasia. As in all these games, a primary tenet of Red strategy was to avoid risking the homeland. Therefore, Red did not open with nuclear weapons against Blue. Instead, the war began with a massive conventional attack on the Central Front, Thrace, and through Austria. Smaller attacks were mounted in Norway and Iran. The Red plan also was to intimidate Japan and talk France into neutrality, while applying enough pressure in Southwest Asia to divert Blue. After victory in Europe, the plan went on; Red could then turn to the Persian Gulf and Far East.

The Blue/NATO political objective was restoration of the “status quo ante bellum.” During this particular game, Blue strategy was essentially reactive. The preservation of peace was attempted as long as possible, and then, once the war began, Blue moves were mainly in response to Red actions. Because Blue was not confident of success on the Central Front, the minimum Blue military objective was to hold on the northern and southern flanks, the GIUK (Greenland-Iceland-United Kingdom) gap, and in the eastern Mediterranean and Persian Gulf.

Red launched the conventional offensive only two days after Blue had begun mobilization. In addition to extensive conventional attacks, the Red offensive was augmented by the use of chemical weapons against Iceland, Guam, and the Azores. In an unusual but very effective move, Red exploded three nuclear air bursts off the east coast of Japan in an effort to intimidate that nation into neutrality.

Once nuclear weapons were used, the Blue National Command Authority (NCA) focus shifted from the tactical level to nuclear linkage. In the process, details such as the sensitivities of third parties, mobility problems, and even outcomes in specific theaters quickly became secondary.

GWG 1980 became, almost immediately, an exercise in control of nuclear escalation. Blue, in response to an SNA/LRA strike from Aden that destroyed a resupply convoy of SL-7s (high-speed container ships) in the Indian Ocean and also to the Red nuclear salvo east of Japan, elected to launch a B-52 raid against Aden with nuclear weapons. Blue was also influenced by erroneous intelligence that Blue forces had been destroyed by the Red nuclear demonstration off Japan. The Red response was immediate and devastating. Red air utilized nuclear weapons to destroy three CVBGs in the Indian Ocean while a fourth CVBG was lost to a nuclear attack in the Pacific. After searching for a suitable target to respond to the loss of the CVBGs, Blue attempted to destroy two *Kiev* surface action groups (SAGs) in the Sea of Japan with nuclear weapons. All the attacking aircraft were lost before they could drop their weapons. An anti-SSBN campaign was more successful, as all forward deployed Yankees were sunk with conventional weapons.

Meanwhile, in Europe, the situation on the Central Front was not going well for Blue. Cracks had begun to show in the battle line of the northern sector. France had not transferred full control of its army to SACEUR (Supreme Allied Commander Europe). Arrival of Blue reinforcements was slowing down as forces could no longer be flown directly into the Federal Republic of Germany (FRG). Damage to numerous NATO airfields further hampered the airlift and the provision of TACAIR support.

Blue sought a “second front” to take the pressure off Central Europe, but lacking any readily available threats with which to challenge Red from other directions, Blue recognized that it would only be “robbing Peter to pay Paul.” Even aggressive PRC military operations, it appeared, would not put enough pressure on Red soon enough to make a difference.

The nuclear escalatory process entered a new dimension as the PRC, involved in a conventional war with Vietnam, sided with Blue and ordered Vietnam to cease assisting Red. Vietnam refused, and the PRC responded by exploding a nuclear weapon over Haiphong harbor. Vietnam replied with an attack using Red-supplied nuclear weapons against four targets in the PRC. In retaliation, the PRC struck six Red targets with nuclear weapons. Red responded with a major nuclear strike against the PRC.

The game reached a temporary termination when Blue, desperately short of options, utilized the “hot line” to threaten an attack on Red at the SIOP (Single Integrated Operations Plan) level. This induced Red to cease hostilities, although Red calculated this was but a temporary pause in hostilities. The game had reached D+5 at this point.

1981 Probably the most intriguing aspect of GWG ‘81 was the absence of combat on the Central Front. The primary Red objective at game start was a historical goal of seizing the Turkish Straits. Secondly, Red sought control of the Gulf and Mideast oil. While NATO and the Warsaw Pact alliances were intact, their enthusiasm for joining a superpower conflict was minimal.

As with the two preceding games, the scenario setting was 1985. The principal crisis governing events involved a conflict between Red and Turkey over the terms of the Montreux Convention, which regulates maritime passage through the Turkish Straits. A specific game objective was to examine factors involved in nuclear escalation.

In Turkey, Red and its surrogates conducted a coordinated campaign to weaken and disrupt the Turkish government. This took the form of a propaganda campaign and demonstrations aimed at separating Turkey from NATO. In addition, Syria attempted to agitate Turkey’s Sunni Moslem population. The Turkish government retaliated by threatening strict interpretation of the terms of the Montreux Convention. Red “escalated” with overflights of Turkey, amphibious exercises in Libya, and Warsaw Pact force movements in the Black Sea, Bulgaria, and Romania.

Southwest Asia was important in this scenario. Iraq moved toward the Red camp, leading to Blue concerns for the security of both Kuwait and Saudi

Arabia. As the crisis developed, tensions were raised with the discovery of a plan for a joint invasion of Kuwait and Saudi Arabia by Iraq and Red.

Red commenced the war with an offensive against the secondary objective, Iran. Long-range aviation also struck targets in Saudi Arabia. Only when this campaign was well advanced did Red attempt to capture the Turkish Straits with an advance through Thrace, supported by an invasion of eastern Turkey.

Blue struck back against Red air facilities in the Balkans and the Crimea with conventional air strikes from bases at Cairo and Izmir, aided by carrier air. Red retaliation, still at the conventional level, was effective. Two CVs in the Mediterranean were sunk.

Blue, perceiving that the military situation was deteriorating and its options reduced to strategic withdrawal or nuclear escalation, chose the latter with Tomahawk land attack missile-nuclear (TLAM-N) attacks against Red bases in the Trans-Caucasus, Vladivostok, Alexandrovsk, and Petropavlovsk. Red responded immediately, as inter-continental ballistic missiles (ICBMs) struck Diego Garcia and Guam, and the *Nimitz* battle group was lost to a nuclear attack. Blue NCA released nuclear weapons to Turkey, which were utilized against advancing Red forces. Red responded with nuclear attacks against Turkish positions.

Shortly afterwards, a nuclear cease-fire was agreed upon, though a conventional war continued in Turkey. All this occurred in five days.

The situation on the Central Front, though tense, never escalated to hostilities. Blue and Turkey were essentially alone in fighting Red. Indeed, there was a degree of resentment by other NATO nations over the military forces committed by Blue to this crisis.

1982 GWG '82 saw two modifications from previous games. First, this game commenced with war already in progress. The prehostility phase, transition to war, and initial hostilities were gamed at the National Defense University in Globex-82, allowing GWG '82 to explore even further into the war.

Second, 1982 was the year that saw Army and Air Force personnel fully integrated as players in the game. This adjustment to joint play provided a richer context in which to conduct military operations and develop issues.

Set in 1985, the scenario had now shifted decisively to a European focus. As in previous games, unrest among the satellites was a problem for Red, particularly in Poland, where increased food prices, food shortages, and a slowdown by members of Solidarity precipitated a crisis. In addition, Red concerns about the Blue relationship with Norway emerged as an important factor. Among points at issue in this relationship were prepositioning of Blue rapid

deployment force (RDF) equipment, fishing and territorial claims in the Barents Sea, mineral rights on the Svalbard continental shelf, and joint Blue, Canadian, Norwegian, and United Kingdom exercises in northern Norway.

Southwest Asia remained unsettled and a potential problem area for both Blue and Red. Relations between Israel and Syria continued to deteriorate, resulting in open warfare in 1985. Red forces had intervened in Iran, at the request of a post-Khomeini government (that leader having been assassinated), to put down civil strife. Red retained a presence in Iran through a subsequent grant of port facilities in the south of that country. Saudi Arabia felt threatened by these developments, particularly so following an Iranian attack on an Iraqi oil pipeline section. A Saudi request for deployment of the RDF was granted.

Events in the Far East centered upon an agreement between the People's Republic of China and Japan for joint development of a large oil field in the Bohai Bay area. North Korea remained a threat that could divert Blue from other objectives.

The Red primary strategic objective was the elimination of Blue political and military influence in Europe through a successful invasion of the Federal Republic of Germany and the consequent dismantling of NATO. The means toward this end were to be an offensive in the northern area of the front with the military objective of crossing the north German plain to cut off the Benelux countries (Belgium, the Netherlands, and Luxembourg) and seize the Channel ports. Red forces would hold in the center and south, while diplomatic initiatives were used to convince France to remain neutral. Red also planned to advance into northern Norway to gain the strategic advantage of a secure flank and improve the tactical situation in the event of a Blue naval initiative in the Norwegian Sea. A subsidiary ground-thrust by Red into Thrace had similar objectives: to anchor the southern flank and to increase options for operations in the eastern and central Mediterranean.

The Red initial offensive in Europe commenced as planned, but was stalemated at the Rhine. The northern thrust was checked by Norwegian forces, augmented by a USMC MAB, at the Skibotn line. In reaction, Red responded with a chemical attack on the Norwegian air bases at Bodo, Evenes, and Andoya, though carefully avoiding any penetration of neutral Finnish and Swedish territory.

On the southern flank, Red did succeed in establishing a narrow corridor between Greece and Turkey, where substantial gains were achieved. Initially, Blue CVBGs were withdrawn from the eastern Mediterranean but subsequently returned as the situation stabilized. An amphibious landing was conducted to provide reinforcement to NATO defenders in Thrace. Overall, Blue naval forces in the Mediterranean suffered some losses, but the exchange ratio was in their favor.

In the Atlantic, Blue established and maintained submarine barriers from Greenland to Norway to protect the SLOCs (sea lines of communication). Red, in turn, placed SSBNs in “havens” at sea or under the ice in the north Norwegian and Barents Seas. The Norwegian Sea became an area of intense ASW conflict, with Blue submarines doing well against Red. In an attempt to help slow the Red advance on the Central Front, two CVBGs were sent into the North Sea.

In the Far East and Pacific theater of operations, Red was on the political and military defensive. Red SSBNs were hidden west of Kamchatka in the northern Sea of Japan and in the Sea of Okhotsk. Blue concentrated on finding and destroying the SSBNs and major surface combatants. While somewhat successful, attacking Blue suffered heavy losses, particularly in the Sea of Okhotsk. Players assessed that Japan would permit Blue to use their bases for “defensive” ASW operations, but not for “offensive” operations. Blue CVBGs initially moved back into the central Pacific in a maneuver similar to the initial maneuvers in the Mediterranean. Subsequently the CVBGs moved forward to attack Red surface ships. In the Indian Ocean, a Red combined forces attack was able to damage severely both Blue carriers.

Blue adopted a forward offensive strategy to sink the Red navy, and the maritime campaign was successful. Red surface forces were virtually eliminated, and the submarine force severely depleted. However, the extent to which the successful Blue anti-SSBN campaign altered the strategic nuclear balance was unknown and did not play a significant role in the respective NCA discussions on nuclear weapons use. The ground war on the Central Front was the most significant theater for Blue. While Blue was able to upset the Red timetable and deny Red a quick victory, Red was still able to occupy significant portions of the FRG.

No nuclear weapons were used in GWG ‘82, though Red did make extensive use of chemical weapons, especially in northern Norway and against Iceland. The heavy use of chemicals in the absence of any nuclear use was an aspect that set the 1982 game apart from the previous games.

As the game progressed, Red sought to negotiate a cease-fire and to terminate the war. However, as in previous games, Blue maintained the position that the “status quo ante bellum” in Europe was a prerequisite to any cease-fire. Red refused to negotiate on this basis, and at game’s end, it appeared that a long war was in prospect.

1983 The scenario for the 1983 Global War Game postulated a series of crises in geographically separated parts of the world. As in 1982, however, the

focus remained the Central Front and deteriorating relationships between Red and the satellites.

One of the Red difficulties lay in East Germany and Poland. Worker unrest was escalated by government crackdowns. Riots occurred, mobs attacked police headquarters, and indigenous troops sent to suppress the incipient rebellion mutinied. Red, confused and taken by surprise, pulled troops back to the east, leaving a power vacuum on the eastern side of the frontier between the FRG and the German Democratic Republic (GDR). With the insurrectionists in control of this area, talk of reunification became rampant and rumors of West German military movement toward the east circulated.

Trends in the Middle East and Southwest Asia remained little changed from previous games. Israel, nearly isolated politically, due to a continuing occupation of Lebanon, faced a possible invasion from Arab states led by Syria. Red had been involved in a massive military buildup in Syria and had sent combat troops to that country. Although hostilities between Iran and Iraq had been terminated, potential instability in the Gulf continued as Iran maintained its policy of fostering Shiite agitation throughout the region.

In the Far East, a major war was in progress in Southwest Asia. Vietnam had invaded Thailand with success. In response, and after warning Vietnam of the consequences of continuing, the PRC launched an invasion of Laos and Vietnam. Although resistance was stiff, PRC troops were at the gates of Hanoi and Haiphong when GWG '83 commenced.

The Central Front, was the Red major area of concern. Events in the German Democratic Republic and Poland posed a threat to the satellites and the Warsaw Pact that Red could not tolerate. Yet, the circumstances left Red with the necessity of initiating hostilities prior to full mobilization. Red military objectives were, quite possibly, the most limited of any game thus far. The essential goal was to capture a significant amount of FRG territory and thereby lessen Blue influence on the Continent by demonstrating NATO's inability to defend a powerful continental member, and then negotiating a permanent solution to the "German Problem." While an offensive in northern Norway was integral to the Red plan, Red had no other aspirations on D-Day. As in previous years, Red was anxious to avoid involvement in the Far East.

Blue sought to defend conventionally on the Central Front to gain options with maritime superiority obtained through a forward, aggressive strategy against all Red naval assets and to shift the strategic balance through an anti-SSBN campaign. The Blue campaign for maritime superiority was more coordinated than in previous games, and part of this strategy involved amphibious landings in the Kuriles.

The Red offensive on the Central Front was hampered by the short time that Red had allowed for mobilization. Once launched, the offensive progress was relatively slow and a stalemate developed. Red sought negotiations virtually from the onset. However, Blue conditioned agreement to a cease-fire on a territorial “status quo ante bellum” in Europe—terms unacceptable to Red.

For a variety of reasons, Red chose to escalate the war horizontally. One method was to induce North Korea to move south, in which Red was finally successful. Blue responded by utilizing the forces previously involved in the Kuriles to bolster the defense of South Korea.

In Southwest Asia, Red mounted an attack into Iran and toward the Gulf. This decision resulted from complex factors, including failure to succeed in political initiatives with the Arabs. Red, however, reasoned that control of the region’s oil supplies could be used as further leverage against Blue. Blue had no effective counter in Southwest Asia, as the CVBG in the eastern Mediterranean had been pulled west to add to Blue TACAIR on the Central Front.

For the first time in the GWG series, Blue air strikes against airfields and military targets inside Red territory were met with attacks against North America. Red lost over twenty bombers while knocking out two distant early warning (DEW) line sites and damaging an SSBN installation in Washington state. Red also employed anti-satellite (ASAT) weapons to destroy Blue navigational satellites. Blue responded with Tomahawk land attack missiles-conventional (TLAM-C) strikes against Red space facilities.

Consistent with previous games, Blue launched an offensive against the Red SSBN force. This effort was relatively successful; nearly half of the Red SSBNs were sunk by game’s end.

Neither nuclear nor chemical weapons were used in GWG ‘83. Although nuclear use was discussed by both NCAs, Red saw no need for them, and Blue could not find any employment that would be beneficial.

GWG ‘83 saw the concept of a prolonged war further developed. As the game ended on D+30, the prospect was for continued hostilities as the stalemate on the Central Front had the potential to continue well into the future. In this regard an economics panel was involved for the first time in a GWG, evaluating industrial/mobilization issues pertaining to general war. There was a considerable amount of war termination negotiation. However, Red insistence on retaining its Central Front gains, and Blue/NATO demands for a return to the “status quo ante bellum,” left negotiations deadlocked.

Overview

The first five-year Global War Game series explored a broad range of significant issues. A number of new concepts and ideas evolved, many of which influenced theater strategies for the Blue and NATO forces. Others were reexamined or modified, based on the lessons learned in the games.

Fully understanding the key issues requires the reader to be aware of how game dynamics interacted with scenario events and game analysis. This overview discusses the interplay between these issues and their impact on strategy development. While this section does provide a capsule examination of the games, the emphasis is on highlighting a selected number of the most significant themes and discussing how they were analyzed and affected by dynamics. A complete analysis of these and other issues is presented in the sections that follow.

The first year, the heaviest emphasis was on naval play, and the role of the Army and Air Force was largely prescribed. Very early in the series, however, it became evident that events, particularly in Europe, could not be gamed adequately or the issues assessed properly without the full integration of the Army and Air Force representatives, both in the play of the game and in the “study” part of the “game-study-game” cycle alluded to above. The use of both personnel and the models these services developed to replicate outcomes of combat were critical to the realism of the game and analytical process.

As the sister services became more involved in the game, Blue forces were more effective. Efforts to improve coordination between the Navy and the other services were continually emphasized. A number of experiments were conducted to see how the forces of each service could work together to achieve common objectives. At the same time, the number of participants, interservice and intraservice, and civilians increased. Both factors combined to raise the quality and sophistication of the game play.

Blue began with a defensive mentality. The ability of forward-deployed operating forces to survive in the face of intense Red air and naval attacks was a major concern. However, as the series progressed, Blue found not only that naval forces could operate in those forward positions, but also that the more aggressive posture produced greater success. True to the charter of the games, Blue experimented with a number of concepts in the naval area. Throughout, naval forces were employed innovatively and naval strategy was characterized by a willingness to explore different ideas.

Red gaming approach also evolved. Initially, Red operated tactically in a rigid, deterministic style, while at the policy/strategy level, several questionable operations were attempted. This was due in part to a combination of the small

number of players representing the Red side and their limited level of knowledge and background for realistically representing Red. An accurate simulation of Red strategic thought process was also hampered by the use of U. S. military personnel who tended to “worst-case” by concentrating on known Blue weaknesses and ignoring the limitations of Red.

In order to better simulate Red, members of the intelligence community were brought into the game to replicate Red thought processes and world outlook more accurately. These new participants defined Red objectives and strategy in terms of actual intelligence estimates rather than in terms of worst-case fears. Additionally, as the contingent of Red players expanded, sufficient numbers became available to allow the cell to interact fully with the game organization as opposed to being a more traditional and limited opposition-force cell. As a result, Red play became less dogmatic. These factors led to the formulation of goals that were less ambitious but probably more representative of real-life Red policy. For example, the scope of Red military objectives diminished from the “control of Western Europe” to a more attainable “neutralization of the Federal Republic of Germany,” and the propensity to escalate across the nuclear threshold diminished.

This change in Red caused a shift to occur in the way hostilities began. During the first games, Red purposefully embarked on a planned war of conquest. Red initiated and used the conflict as a tool to gain predetermined political objectives. And this, in the 1980 and 1981 games, contributed to rapid escalation and transition to war. While both these games involved relatively short periods of actual diplomatic and military activity, Blue players endeavored to negotiate their way out of crisis, on the one hand, while trying to position forces to gain advantage should war break out, on the other. Blue, in addition to managing the confrontation with Red, had other complex problems. Blue had to give direction to a NATO alliance whose members did not always concur on the appropriate response to the situation. Allies in other parts of the world had totally separate concerns. Both camps had to deal with various neutrals worldwide that were important. While participants found these problems difficult and occasionally frustrating, a great many insights were gained into factors that led to war.

Both Blue and Red learned that a nation did not simply decide to go to war; both saw that war was difficult to start and often occurred as the result of a number of events often outside the control of the eventual belligerents. Therefore, in the later games, the cause of hostilities changed. Red, though still initiating the war, did so as a result of a chain of events that pushed Red beyond the ability to avoid war. In the ‘82 and ‘83 games, Red faced the prospect of a rebellious Eastern Europe and felt compelled to act before events got totally

out of control. This supports the premise that few rational leaders would deliberately start World War III.

Nonetheless, Red, as the initiator of hostilities, gained substantial benefit. This role allowed Red to choose the theater or region that best fit its plans and then mass the required units. Elsewhere, Red practiced economy of force. Blue, in turn, had to concentrate forces in the geographic area of Red attacks. Remaining forces were hard-pressed to mount an attack strong enough to seriously distract Red.

Europe acted as a magnet for both Blue and Red. To Red, as a continental power, Western Europe was a logical area for political and territorial expansion. A Red offensive into this theater represented a means toward the end of weakening or destroying Red's primary global foe, the Blue/NATO coalition. Even the early offensives into Southwest Asia supported this objective. Capture of Europe's energy supplies could severely cripple NATO.

Blue focus was also on Europe. The NATO alliance was the most important Blue political/military link, and the maintenance of that coalition was paramount to Blue strategy. Hence, Red offensives against NATO had to be countered at all costs.

The Blue relationship to NATO impacted war policy in several other ways. NATO was essentially a defensive alliance with the goal of maintaining the political and territorial integrity of its members. It did not seek to seize territory from, or to overthrow the national governments of, the Warsaw Pact. Blue, by its link to NATO, adopted a like policy in Europe. This led Blue/NATO to articulate objectives in terms of "restoration of the territorial status quo ante bellum." Operations elsewhere did exhibit some level of aggressive intentions, but were limited by force availability.

The alliance also affected Blue in another aspect. As a maritime power, Blue was allied with an essentially continental coalition (NATO) facing a continental foe (Red). As Blue forces sought to support the European battle, they experienced the traditional problems a maritime nation encounters fighting a continental power. Most notably, Blue had to find the most effective way to employ its naval power. However, commanders realized that to use this strength placed Blue in a classic predicament; naval force could not win the war, but at the same time a major naval defeat would significantly reduce Blue strategic flexibility. This situation was to affect profoundly Blue strategy and was largely responsible for the early conservative mode of force employment. Once Blue found its forces could successfully defend themselves, its naval efforts became increasingly aggressive.

Though this more aggressive role produced some measure of increased success, the fundamental problem of how best to use a naval force against a

continental foe remained. While no definitive solution came out of this series, the participants gained a far better understanding of the role and value of maritime power in a global conflict.

The maritime/continental relationship presented Blue with yet another dilemma. Blue, as a maritime power, had to operate globally, if only to protect all its interests. This caused a considerable dispersal of forces which worked to Red advantage. Thus, not only was Red able, as noted above, to mass at the point of the offensive, but the very orientation of Blue power worked to disperse its force further.

Red was actually conducting two distinctly different wars in one. Within a Blue/Red context, Red was fighting a limited conflict. Red did not seek to destroy Blue. Within the context of the European theater—Western Theater of Military Operations (TVD)—however, Red was waging an absolute war with the objective of total victory. If it could achieve the neutralization of the FRG, this would, in the Red estimate, lead to the emasculation and eventual dissolution of NATO and the significant reduction or actual elimination of Blue influence on the Continent.

Escalation, both vertical and horizontal, was a topic which received considerable attention during the Global War Game series. Though the escalation issue had been studied in great detail elsewhere, these games explored the process within a global environment through interactive techniques. As the sophistication of the scenario grew each year, knowledge and the lessons learned increased proportionately. By the end of the five years, a number of valuable insights into the range of complexities associated with the escalation process developed.

During the series, vertical escalation passed through the conventional dimension and into the nuclear and chemical arenas. Of these two, the nuclear aspect attracted the most attention, especially in the first three games. Invariably, players found that nuclear weapons overshadowed all other events and turned the game into an exercise of escalation control.

Through experience in the game, both sides came to the realization that nuclear weapons produced little tactical advantage. Blue, while essentially equal at the strategic nuclear level, suffered from a perceived inferiority at the tactical and theater levels. (Note: Both Blue and Red views of the nuclear situation were based on estimated 1985 force balances.)

Red also came to this realization, though for different reasons. Use of nuclear arms, in spite of Red tactical/theater advantages, proved to be counterproductive. Red had gone to considerable effort to build a superiority in conventional arms. That advantage might be negated if the conflict escalated to the theater nuclear level, which could destroy the value of the territories

gained as well as major Red forces. Additionally, such a move put the homeland at risk, an outcome contrary to Red objectives.

Blue faced a further escalation disadvantage in nuclear targeting. The vast majority of targets for Blue were located inside the Red continental homeland. A strike on any target in the homeland was perceived to make escalation to the strategic nuclear level more likely. Thus, Blue found it difficult to select a target in isolation that did not run the risk of causing dramatic escalation. A conventional weapons strike into the homeland also had considerable strategic implications, especially when considering Red paranoia on the homeland defense issue. Further, the problem of determining the nature—nuclear or conventional—of an inbound raid increased the risk of triggering a Red “launch on warning.” All these factors combined to make a graduated Blue response difficult.

In contrast, Blue as a maritime power offered Red a number of attractive and isolated targets, such as aircraft carrier battle groups (CVBGs) and island bases. Given the player perception that the theater nuclear balance was in favor of Red, Blue was constrained in its response options. To “counter in kind” would be to accept a theater nuclear conflict that, in Blue eyes, it would lose. Red endeavored to use this perceived advantage in the first three games. Red was not without difficulties, however. Throughout the series, formulating an adequate response to Blue anti-SSBN campaigns was a problem. After several less than successful efforts, Red reluctantly accepted the losses as inevitable.

Chemical warfare was an area where Red was perceived to enjoy a distinct advantage. Red resources were thought to be superior, outnumbering those of Blue. When Red chose to employ chemical weapons, Blue felt it had no adequate, symmetrical response. In fact, despite an avowed policy of retaliation to chemical attacks with nuclear weapons, Red usage of chemicals met with a Blue nuclear reply only one out of three times.

Horizontal escalation represented another dimension in the escalation process. Blue experimented with a number of approaches in an effort to divert Red from its primary focus or to discover a major Red vulnerability. Red, however, remained largely tied to its European focus and refused to be diverted from the Central Front. Even geography played against Blue in this effort, as areas of potential vulnerability were difficult to reach effectively.

However, a danger for Blue in employing a strategy of horizontal escalation was the risk of diverting or diluting valuable resources that were needed elsewhere. If Blue chose to mass sufficient forces to be effective, the availability of resources to support the primary theater might be adversely affected. Conversely, if Blue mounted an attack with a less favorable force ratio, the effects were marginal.

While Blue did not achieve major success employing horizontal escalation strategies, analysis did show useful trends not readily apparent at first. Blue, hoping for a response which would produce an immediate advantage, either looked in the wrong area or missed the initial indicators of what could be significant, long-term benefits. Some of the more important aspects of horizontal escalation were seen in the actions Red did not take. Blue, by positioning forces that had a potential to harm Red, caused Red to maintain higher force levels in defensive positions. This was seen frequently in the maritime and air arenas where Red maintained sizeable forces in regions away from the primary area of combat to counter possible Blue offensive actions. As these Red forces were not diverted, value for Blue ensued from their commitment to defensive purposes and the resulting nonavailability for offensive efforts. Of equal significance were the instances where Red began a redeployment of forces to counter Blue. These actions showed the potential of achieving the desired dispersion of Red resources. However, many such redeployments were still in their initial stages and did not become evident due to the short time span of the game. As the long-war issue emerged, a link to horizontal escalation appeared to offer some attractive prospects.

Red found an opportunity to use this same strategy. By launching attacks into Southwest Asia, Red caused Blue to divert sizeable forces away from other theaters. Additionally, through the use or threatened use of surrogates such as North Korea, Red was able to tie down additional Blue resources.

Initially, both sides had envisioned a conflict of relatively short duration. However, over the course of the series, a number of factors became evident to indicate that Blue gained certain advantages from a long-war policy. Most notable was the opportunity to redirect superior Blue industrial, economic, and agricultural resources to the battle. Once mobilized, these sectors placed Blue in a much more favorable position. Red, in contrast, with a larger proportion of these resources in a smaller economy already oriented to the defense sector, achieved less through full mobilization.

A key issue for Blue was the ability to continue through the early and intermediate stages of conflict to reach a long war. Blue forces must fight a stronger Red conventional force during these stages using only “on-hand” resources. Red not only had a larger standing military force but also enjoyed a considerable advantage due to its greater arms stockpiles and “warm” production base.

However, from another aspect, Blue policy made a long war almost certain. Blue doggedly maintained a position that accepted no compromise to the position of a territorial “status quo ante bellum.” However, the Red strong initial conventional superiority made sizeable early gains virtually inevitable.

Relinquishing these territorial victories would have been unpalatable for Red. Tactical and theater nuclear options did not appear to redress this problem. As a result, Blue was, from a policy standpoint, virtually locked into a long war.

For Blue, linking horizontal escalation to a long war appeared to offer some very tangible benefits. Over a longer period, many Red vulnerabilities could be exploited effectively. Red appeared particularly exposed to actions against food supplies. Red's ability to produce and distribute food, even during good times, was marginal. During wartime, much of the agricultural sector (manpower and equipment especially) would be mobilized. As the war lengthened, food availability would eventually drop. Food imports as a substitute would no longer be an option. The extensive fishing fleet was vulnerable and would lose its freedom to operate. Blockade, combined with selective attacks against agricultural production and distribution systems and commercial fishing vessels, could exacerbate the problem. These actions, tied with efforts to exploit latent Red nationality problems, had the potential to be an effective weapon. Much of the Red industrial complex was also vulnerable, and the effects of its attrition would be cumulative with the agricultural shortages.

The longer war would also give Blue an opportunity to exploit fractures in the cohesiveness of the Red/Warsaw Pact coalition. Red ability to maintain alliance support appeared to vary with the political and military situation. A strong campaign with the objective of splintering the Warsaw Pact nations could produce favorable results.

The war termination issue presented a difficult problem that was never completely resolved. Neither side was willing to budge from its respective position in order to complete negotiations. As noted, Blue insisted on a return of all forces to a territorial "status quo ante bellum" as a precondition to peace talks. Red, on the other hand, offered an immediate cease-fire in place with negotiations to follow.

Blue would not accept such an offer, feeling that once a cease-fire occurred, Red would achieve a de facto legitimization of military gains, as NATO might find it difficult to reinstitute hostilities. Red, perceiving the situation to be clearly in its favor, found it difficult to believe that Blue refused to enter negotiations. The result was a deadlock, as neither side was willing to move from its position.

Objectives and Strategy

Blue Objectives

THE POLITICAL OBJECTIVES of Blue during these games were shaped by its perceived national interest, the nature of alliances, and force capabilities. The Blue position as the leading member of the NATO alliance was central in all policy determinations. The concentration of both Blue and Red military and economic resources in Europe exerted a pressure that tended to far outweigh the influence of other theaters. Additionally, Blue political and cultural ties to Europe were a strong bond. Even in the games where the scenario was constructed to emphasize Southwest Asia, the players, as the game progressed, had a tendency to shift focus toward the European theater.

This relationship is important, as the NATO alliance is essentially a defensive one, with the objective of maintaining the political and territorial integrity of its member states. Consequently, the Blue policy in this theater was linked to the NATO alliance. Objectives in Europe, the North Atlantic, and the Mediterranean were constructed to mirror closely those of NATO. Those objectives were defined by words such as “preserve,” “maintain,” “hold,” and “avoid.” In these theaters, the ultimate measure of success for NATO (hence also Blue) was the preservation or restoration of the territorial and political “status quo ante bellum.”

Some criticized Blue for a lack of clearly defined political objectives. However, both in the Global War Game series and in the “real world,” military goals are tailored to policy objectives. In this instance, policy was to preserve the territory and interests of the NATO member nations and the alliance itself. No aggressive, offensive objectives to seize Red or Warsaw Pact territory were envisioned. Such actions would have been contrary to the defined alliance policy. However, these limited objectives did not preclude the employment of aggressive strategies toward their accomplishment. Maintenance of what is essentially the “same situation” may seem a bland objective in global war, but it was fully in consonance with stated policy. Thus, criticism of Blue for lack of, or inadequate, objectives failed to consider that these objectives are purposely

“limited” and tailored to fit an alliance policy that seeks no more than the maintenance of its integrity.

Further, success in attaining this objective, when combined with Blue success in other theaters, particularly at sea, would make the postwar world a very different place. Red would still be a powerful nation, but the status of the Warsaw Pact as a whole would certainly be in doubt, politically and militarily. Red’s overseas reach would be amputated and overseas “satellites” bereft of support. Thus, the achievement of Blue objectives, however bland they may appear, would have a significant effect on the postwar environment and the relative positions of Blue and Red.

In non-NATO theaters, Blue objectives were influenced by force capabilities. With a large dedication of resources to NATO, the supporting objectives had to be consistent with the capabilities of available forces. Additionally, as the series progressed, one of the early areas of concern, Southwest Asia, steadily declined in emphasis as the impact of the “real world” energy crisis decreased. Even when, in the two early games, Southwest Asia was considered a central concern, Blue players felt uncomfortable with the military forces they had to support the objective of defending the oil supplies and friendly Gulf nations. The combined effects of both distance and the strength of Red forces in proximity to Blue put Blue at an immediate disadvantage. At best, Blue could defend those interests, but at worst, suffer heavy losses to forces that might be needed elsewhere. Also, Red had few vulnerabilities that the forces in this theater could exploit. Further, Blue’s NATO allies tended to raise concern that forces deployed to this theater represented a decrease in Blue ability to defend against Red in Europe. In the Pacific, while Blue military capabilities were adequate to meet the political objectives of defense of allies and reassurance of the PRC, force levels did constrain offensive options. Additionally, geographical constraints were a factor. In-theater forces could strike and “hurt” selected enemy targets but were not adequate to mount a sustained offensive of the scale required to damage Red substantially. While Blue was unable to launch an offensive of sufficient size to cause major Red adjustments, Blue forces did secure vital political objectives in the area. This, combined with the substantial destruction of Red maritime assets and the severing of the Red Far Eastern SLOC, laid the foundation for a firm Blue position in postwar Asia.

The defense of Western Europe was an objective that appeared consistently in the series. However, at various times there were other objectives. For example, the defense of the oil supplies and the Gulf states was a primary objective in 1979 and 1980, and a secondary objective in 1981. This was a response to the direct threat that Red was mounting against these resources. As

both the “real world” and game threats eroded, so did the zeal to formulate military strategies to counter possible Red initiatives in Southwest Asia.

One issue which grew steadily in emphasis as the series progressed was the “long-war” objective. Blue concluded that Red held the advantage in conventional arms and that escalation to the nuclear level either achieved little or worked to Blue’s disadvantage. Consequently, Blue began to perceive that an objective of a long conventional war offered significant promise. If Blue could hold on past the initial stage and through the intermediate period, then its superior industrial and economic power could be mustered against Red. As Blue experienced significant difficulties in the early stages of all the games, this course evolved as an alternative to nuclear escalation or apparent conventional defeat.

Overall, Blue political objectives could be characterized as limited, purely defensive, and supportive of the restoration of the political and territorial “status quo ante bellum.” While the principal focus of this effort was in Western Europe, the sovereignty and independence of the Persian Gulf states and maintenance of Far Eastern alliances were also of vital importance to Blue. As the series proceeded, it became an objective of Blue to keep the war conventional, and this policy, coupled with the goal of “status quo ante,” led Blue to think in terms of longer term conventional strategies.

Blue Strategy

During the course of the first five years of Global War Games, Blue experimented with a diversity of strategies. Unlike objectives, which remained relatively constant due to their link to national policy and alliance relationships, the range of strategies employed to achieve these ends varied considerably. However, such a variation was totally in keeping with the charter of the series, whose avowed purpose was to be an “experimental” game creating precisely such a forum to explore new strategic directions.

Much of the strategic development was evolutionary and occurred over the course of several games. Perhaps most significant was the attitude shift from an essentially defensive strategic focus to one that, while still supporting the same overall objectives, supported the employment of aggressive offensive operations. For Blue commanders, the defense of the “status quo” did not mandate a passive operational posture.

Many early indicators of current strategies were also evident during the series. The Global War Games saw the early use of CVBGs in the aggressive, forward employments that became central to the Maritime Strategy. Antecedents of

some of today's military thoughts were evident as commanders directed that Blue technological advantages be used to exploit Red weaknesses. Strategies aimed at supporting the "long war" began to appear. Linked to this, Blue began to de-emphasize early resort to nuclear weapons use and to concentrate on conventional military operations.

Perhaps the most progress can be seen in the strategy directed toward the support of the objectives of maritime superiority and, to a lesser extent, SLOC protection. When the series began in 1979, Blue was extremely concerned over the ability of CVBGs to operate in areas threatened by Red air power. This concern led to a conservative strategy that entailed the withdrawal of the CVBGs from the Mediterranean into the Atlantic and the pullback of Pacific CVBGs from forward positions to more defensible locations in the Central Pacific. A heavy defensive line was erected on the Greenland-Iceland-United Kingdom gap to defend the SLOCs to Europe. However, as the game progressed, Blue began to realize that through proper tactics, deception, and coordinated support, the CVBGs could survive in the face of Red long-range aviation. From this point, Blue went still further in the 1982 and 1983 games to institute aggressive, forward strategies which utilized the CVBGs to strike targets on the Kola Peninsula and the Belkin coast, that is, the Soviet Pacific littoral from Vladivostok to Petropavlovsk. (Specifics are discussed in greater detail in the Employment of Naval Forces section.)

An important point to realize in this evolution is that military operations at either end of the offensive-defensive spectrum were directed toward fulfillment of the same overall objective. The difference was the strategy. In the early games, maritime superiority and SLOC defense were sought through the preservation of forces. Naval formations were positioned away from areas at risk from attack. "Cordon sanitaire" conventions were employed. This was consistent with the then-prevalent concept of maintaining maritime superiority over only those areas necessary for protection of the SLOCs to Europe.

However, as the series progressed, Blue realized that attainment of these objectives could be more effectively pursued through an aggressive strategy that kept Red on the defensive. Both strategies supported the overall objective; they were just different steps in the evolutionary process.

Defense of the SLOCs is a case in point. Given the large amount of material to be moved to Europe, the focus on SLOC protection was invariably a major priority. As noted, the early concept was essentially a passive defense with a "line" constructed across the GIUK gap. However, as a general forward-deployment strategy for NATO maritime forces was implemented and Red vulnerabilities were exploited, Red was forced into a more defensive position and the interdiction of SLOCs was made more difficult. This was particularly

relevant in the anti-SSBN campaign. As protection of the homeland through maintenance of the SSBN strategic reserve was a higher priority for Red than SLOC interdiction, the threat posed by Blue forward deployments, particularly of Blue SSNs to Red SSBNs, played a key role in reinforcing Red's defensive naval strategy.

Defense of Europe was steadily characterized by a strategy of forward defense. Militarily, this was, perhaps, difficult, as it placed a large number of allied forces close to the inter-German border (IGB) with less than optimum defense in depth. Such a placement adversely impacted mobility and increased force vulnerability. However, this strategy was fully in line with the NATO/Blue overall objective of the preservation of the territorial integrity of all member nations. Once hostilities commenced, Blue ground forces engaged Red by employing a conventional strategy in ground combat. Combined-arms play was emphasized and maneuver tactics utilized when the situation allowed. During the early games, CVBGs were often utilized to support the Central Front. However, Blue soon decided that given the Blue/NATO overall air advantage after the first shock of battle, the unique characteristics of the CVBGs were considered more effectively employed in attacks against Red flanks. Forward deployment was used in the Norwegian Sea and in the eastern Mediterranean and complemented NATO efforts to bolster land defense in both North Norway and the Balkans.

Employment of nuclear weapons invariably resulted in a significant reconsideration of all aspects of the war. Due largely to the overwhelming impact of nuclear conflict, all other issues became secondary. While the war continued in the various theaters, NCAs focused on the nuclear issue. Ongoing conventional strategies were submerged as both Blue and Red concurrently sought to exercise control of escalation—while attempting to position themselves to terminate the war in a favorable position.

Nuclear weapons employment was the one area where objectives and strategy were not mutually supportive, and it is significant that neither side resorted to nuclear use in Europe. For Blue, nuclear use was essentially reactive. In the two instances (1980 and 1981) where Blue initiated nuclear warfare, the reason was primarily to respond to a significant Red escalation—use of chemical weapons in Europe in one instance and use of nuclear weapons off Japan in another. However, in both cases Blue found Red willing to press for escalation dominance and only with great difficulty was “central systems exchange” averted. Strategic advantages of position, maritime superiority, and maneuver were quickly negated as the spiral turned into the single process of “topping the opponent” and not “backing down.” As a result, in the 1982 and 1983 games

both Blue and Red maintained, as a limited war policy, the objective of staying below the nuclear threshold.

Away from Europe, Blue strategy demonstrated considerable variation in line with both the changing “real world” situations and insights that evolved from game play. As previously noted, the 1979 and 1980 games emphasized the Red threat to Southwest Asia. Blue strategy during this period entailed a heavy commitment of resources to defending there. In 1981, Blue sought to defend a multitude of axes against possible Red attacks, which resulted in a significant diffusion of forces. However, by the 1982 game, this strategy had shifted to emphasize the defense of Europe and operations in the Pacific. As the “real world” energy crisis began to subside, there developed a realization that unless the Central Front could be held, the preservation of its oil supply was less meaningful than had been assumed. Thus, forces committed to the defense of Southwest Asia in a global war were better utilized in support of the early NATO battles. Europe’s existing energy stocks and oil en route appeared sufficient to carry it through the critical initial battle on the Central Front. Availability of forces otherwise committed to the Gulf might make a critical difference. However, it was realized that if the “long war” developed, this situation could change.

A further factor in this strategic realignment came from the games. Blue saw that the forces available to commit to Southwest Asia and the distance to transport them usually resulted in a force too small to counter Red advantages. Thus, Blue gained little while either losing or malpositioning valuable forces. Consequently, by 1982 and 1983, the forces previously dedicated to Southwest Asia were moved largely to Europe or the Pacific.

In the Pacific, Blue sought to formulate a more aggressive strategy. Though forces were limited, the lessening of Persian Gulf commitments allowed CINCPAC to concentrate his assets in sufficient quantity to initiate offensive operations against eastern Red. The geographical scale and the number of Red forces precluded major offensives against Red territory. However, CINCPAC was able to attack selected vital Red points. Most noteworthy was the major loss inflicted on Red SNA/LRA in the 1983 game. Additionally, this game saw the commencement of amphibious operations in the Kuriles. Thus, by 1983, Pacific strategy had evolved from a primarily defensive posture to one where Blue was on the offensive against Red targets, consistent with the forces available. The Pacific SLOCs and countries friendly to Blue were being defended by offensive operations which limited Red capability to be opportunistic.

Blue attempted various tactics to implement the overall strategy of horizontal escalation. However, Blue learned throughout the series the difficulty of successfully accomplishing anything of further offensive significance. A number

of attempts were made to pressure Red. While the theory seemed to hold promise, execution proved difficult, as Red did not shift focus from Central Front objectives or divert major forces to meet the peripheral threats Blue mounted. Size and geography played to Red advantage. Few Red vulnerabilities were accessible and susceptible to damage that mattered in the short term. Those that did matter possessed such sufficiently strong defenses that attacking forces were subjected to substantial attrition. Blue achieved the most success with horizontal escalation in 1983 when Red, stalemated on the Central Front, reacted to CVBG attacks on its northern and southern flanks. This, in concert with other indications, appeared to show an unrealized potential for the employment of horizontal escalation in conventional war.

Red Objectives

Red political objectives in the 1979–1983 Global War Game series evolved from early concerns with Southwest Asia and the Turkish Straits—and one fling at essentially total Eurasian conquest—to a focus on Eastern Europe. Preservation of the security of the Red homeland and continued control of Red by the CPSU (Communist Party of the Soviet Union) were always the primary objectives. In the 1982 and 1983 games, however, the principal threat to Red was seen as unrest in the Eastern Bloc, the nations comprising the non-Red Warsaw Pact. Red rationalized a solution to this problem in the destruction of NATO and the reduction or elimination of Blue influence on the Continent. Red believed that a conventional military offensive that seized all or a large part of West Germany would achieve these goals by demonstrating the inability of the NATO alliance to protect a powerful continental member. Two points are worth noting:

- The objective of Red was limited in the sense that it did not envision the destruction of Blue or follow-on attacks against Blue vital interests elsewhere; and,
- The attainment of even modest military objectives would have vast political ramifications.

These objectives remained essentially consistent through the series, with Red displaying little inclination to vary the agenda. In four of the five iterations, the primary objective was centered on Europe, where the Red goal was to achieve dominance of this critical theater. The specific definition of this objective varied from “control of Eurasia” in 1980 to the “neutralization of the Federal Republic

of Germany” in 1983. Of interest, as the series progressed, Red military goals in Europe became steadily less ambitious.

The one year that Red did not initiate action on the Central Front (1981), the objective was to exploit a perceived opportunity to gain a traditional Red goal—an avenue to the warm waters of the Mediterranean. As the scenario crisis developed, Red noted the general lack of NATO response to Turkey’s plight and expanded its objectives to attempt to isolate Blue and Turkey from the rest of NATO.

A corollary to the objective of the security of the homeland was to stay below the nuclear level. Red believed that use of nuclear weapons created an undue risk of escalation, with inevitable of serious damage to the homeland. Conventional weapons were deemed adequate to achieve the desired ends. Nuclear weapons use was viewed as dangerous and counterproductive. Indeed, when the territorial objectives appeared out of reach by conventional means, Red often scaled back objectives rather than escalate to the nuclear level to achieve them.

Red objectives in theaters outside Central Europe were essentially secondary and were viewed from the perspective of passive opportunities. The most notable exception was the acquisition of the Gulf oil supplies due to “scripted” energy shortages in the 1979 game. In later games, Red assessed that victory on the Central Front would translate into a de facto victory in the Persian Gulf, allowing the seizure of those oil resources at its leisure. In the Far East, Red sought to keep the situation quiet, avoiding the need to commit resources better used in Europe. Another Red objective was to bring the conflict to a negotiation stage at an early point. Red saw that its initial conventional advantage resulted in significant early victories which translated into a strong negotiating position. From the Red viewpoint, successful negotiations could legitimize the gains with minimal losses. However, Red efforts were confounded by Blue policy, which was not to accept any outcome except a return to the territorial “status quo ante.” Blue rejection of negotiations left the conclusion of the games uncertain, as Red wanted to terminate hostilities and was frustrated over its inability to do so.

In summary, Red sought to achieve important political objectives through the attainment of limited military goals. The longer term issues of threat to homeland security and unrest in Eastern Europe led to a strategy to fracture the NATO alliance and eliminate Blue influence from the Continent. Nuclear weapons usage was generally eschewed, although Red was prepared to retaliate promptly against any Blue use. Overall, Red remained committed to these objectives and displayed little inclination to change.

Red Strategy

Red strategies were consistent with and supported their stated objectives. As Western Europe played such a major role in Red plans, this theater drew considerable attention. Though the objectives in this TVD ranged from the control of Europe to the neutralization of West Germany, individual game strategies employed toward the realization of these ends were similar—a massive conventional blitzkrieg-style attack against West Germany and NATO forces, with full support of Red and Warsaw Pact air arms. In only two instances did the initial assault include chemical weapons (1980 and 1982), and in no case were theater or tactical nuclear weapons used against Western Europe. Red efforts were carefully structured toward the achievement of a two-part objective: dominance in Europe and the dissolution of NATO. Attainment of these ends was sought through outright military victory or by the neutralization of the alliance's strongest European member, West Germany. The collateral goal, and one which would result from the realization of the first, was to end the role of Blue in European affairs. The year (1981) when no hostilities developed on the Central Front, Red employed a like strategy against Turkey and in Southwest Asia. A conventional offensive was launched through Thrace with the military goal of seizing the Turkish Straits and a corridor to the Mediterranean. Red was reluctant to use nuclear weapons in circumstances other than direct retaliation. In 1980, Red employed them initially only as a demonstration off Japan—a ploy to keep that country out of the war. In 1979, Red use was limited to a strike against Blue CVBGs in response to the anti-SSBN campaign. This latter instance was a Red counter to what was perceived as a threat to major strategic resources. Indeed, given the Red tendency to view Blue carriers as a nuclear threat, the response served a dual goal by eliminating a threat to the homeland and attempting to signal Blue to close its anti-SSBN campaign. Overall, Red viewed the initiation of nuclear warfare, with the ensuing possibility of retaliation by Blue, as inconsistent with the continuing Red strategy of protecting the homeland.

Red naval forces contributed to the defense of the homeland. Deployments of air, surface, and subsurface maritime assets acted to protect the SSBNs in their bastions. These employments also served to provide a depth of defense on the seaward flank of the land forces. Of concern for Red was the incremental loss of the SSBN strategic nuclear reserves. This problem was never adequately resolved.

Concurrent with the protection of the SSBNs was the maintenance of integrity of the Red borders and important installations from Blue attack. A specific example was seen in Red efforts in the northwest TVD. Geography in that area

reveals little opportunity for defense in depth in front of the vital installations on the Kola. Therefore, Red naval assets were deployed forward not only to protect the SSBNs but also as a counter to B-52 strikes and possible Blue tactical air assaults from CVBGs in the Norwegian Sea.

These circumstances led to another consistency in Red strategy. In all four games involving the Central Front, Red made some form of attack into northern Norway. Given the importance of defense of the SSBNs in the bastions and of the Kola, dominance of the northern Norwegian Sea became a strategic imperative for Red. Consequently, in a global war where Blue employed an aggressive offensive strategy combined with a war on the flanks, possession of northern Norway was important for Red. This not only expanded the Red defense perimeter but served to deny Blue a staging point for Norwegian Sea operations that could threaten the Red homeland.

Red maritime strategy was described in almost every game as conservative. What appeared to be a cautious mode of deployment in terms of an aggressive Blue strategy was, as has been indicated above, a strategy closely linked to the preservation of the Red strategic nuclear reserve and defense of the homeland. Initially, Blue did not fully appreciate Red priorities and devoted substantial assets to SLOC protection, when in fact SLOC interdiction was low on the Red list of maritime goals. Offensive strikes against Blue CVBGs were primarily pre-planned, based on anticipated Blue actions.

Diplomatically, Red displayed an aggressive strategy aimed at supporting multiple objectives. One aim was to fragment NATO. Therefore, Red offered various NATO member states incentives to remain uninvolved. A consistent theme was to portray the war as essentially a German issue for which the allies were being called on to sacrifice their treasures and lives. Another effort was to induce France to remain neutral and not commit forces to NATO.

Perhaps the most effective Red effort in the political arena was in 1981, when multiple initiatives helped keep most of NATO uninvolved while one of its members, Turkey, was attacked. In this instance, Red propaganda and diplomatic maneuvers depicted Blue strategy as aggressive and provocative and thereby helped cause NATO to withhold timely support.

Outside of the NATO realm, Red's political offensive sought to isolate Blue and NATO from the rest of the world. As with the efforts against NATO, the approach was to combine the "stick and the carrot." Israel, in one game, was offered a steady oil supply as an incentive to remain neutral. On the opposite end of the spectrum, Red utilized three nuclear weapons, exploded off the coast of Japan, as a blatant attempt to intimidate that nation into neutrality. Japan was an important target of Red diplomatic pressure as attainment of its neutrality would constitute a significant blow to Blue in the western Pacific. Similarly,

Red was always very concerned with the People's Republic of China. Elsewhere, Red employed similar approaches and methods to a large number of nonaligned states with the overall goal of hindering Blue's ability to operate and support forces.

Red also employed various strategies to support objectives in secondary theaters. In these instances, the purpose was to distract and divert Blue resources from Red in an area of primary concern—Western Europe. In fact, at times it appeared that Red used horizontal escalation more effectively than Blue. This held true not only from a military but also from a political perspective. Diversion of Blue assets from the Central Front had political repercussions in NATO. Such a strategy had potential for Red, as NATO cohesion was suspect when the emphasis was other than on the Central Front.

Although action in other theaters—except for 1981—usually originated as a diversion, Red in 1983 used horizontal escalation much to Blue's discomfort. Southwest Asia had no place in Red initial planning, but Red's frustration over Blue's failure to recognize the "inevitable" on the Central Front, when added to a perceived opportunity to improve the postwar balance, led Red to move toward the Persian Gulf. Blue, totally committed to the Central Front, was forced to dedicate considerable attention, and the few available resources it had left, to respond. Red also persuaded North Korea to move south to divert Blue from its amphibious operation in the Kuriles and attacks upon the Red homeland. As the series progressed, Red realized that gains in secondary theaters could also develop into opportunities to acquire valuable assets, such as Gulf oil, for negotiation during the war termination phase.

A recurring Red action was to initiate negotiations early in the game. The underlying strategy was to capitalize on the success of Red's conventional blitzkrieg, which usually achieved fairly sizable gains, often a significant portion of West Germany. Red would then offer a "cease-fire in place," with negotiations to follow. Getting Blue to accept such an offer would constitute, Red thought, a tacit agreement that would tend to legitimize Red gains. The magnitude of German territory lost would cause the FRG to collapse, for whatever remained would be too small to be viable. Thus, through a combination of military and political initiatives, Red would achieve the "neutralization of the FRG." Loss of such a major member of NATO would have tremendous consequences and would seriously threaten the alliance's existence. Blue, however, refused to follow what seemed to Red to be the logical course and "bow out" after a series of reverses in Europe. This Blue determination was a consistent source of frustration for Red and resulted in a significant disruption of its plans.

Geographic Theaters

THE RESUMPTION OF GLOBAL WAR-GAMING at the Naval War College was due largely to the recognition that any war between the superpowers could not be geographically constrained. Over the course of the Global War Game series, shifts have taken place in the thinking about the use of naval forces in various geographic areas. In general, these changes can be attributed to the evolution of a more aggressive Blue maritime strategy. The following discusses some of these changes and their impacts on global strategy.

Europe

Although Europe is but one theater, it exerted tremendous influence on the entire conduct of a global war. Even when the focus of the conflict was purposely constructed to emphasize another area, such as Southwest Asia, the Central Front still drew primary attention. The reason was obvious; this region held the largest concentration of military forces of both superpowers and their allies. Any victory here caused a substantial political, military, and economic impact everywhere. A post-game memorandum concerning the 1980 game expressed this best: "For the second front to be viable, the first must hold."

A primary goal of Red was to overrun the FRG, which was expected to cause the disintegration of NATO and the retreat of Blue from Europe. Red launched an offensive on the Central Front in four of the five games. In each of these instances, the Warsaw Pact was able to push back the NATO forces. However, as the series progressed, the degree of success Red was able to achieve grew less. Successively, Red advances were slower and less impressive. In fact, by the 1983 game, the initial Red offensive was essentially stalemated.

Several games saw the commitment of carrier aircraft to European combat, sometimes to the detriment of other theaters. As the series ended, employment of naval tactical air remained a subject requiring study. The issue of concern was how, given the large number of tactical aircraft engaged in Europe, a

comparatively small number of carrier-based aircraft could be employed in the theater to maximize their impact and unique capabilities.

Central Front

The Central Front was the theater where Blue and Red armies, with their allies, came together in the largest and most prolonged period of combat. Generally, Red strategy in this campaign was to launch a massive, conventional “blitzkrieg” against NATO. Red counted on a substantial conventional arms advantage in conjunction with a more fully mobilized force to achieve an early breakthrough. Once the NATO battle line on the Central Front was shattered, Red believed this would mean the end of the alliance and Blue influence in Europe.

In turn, NATO sought to protect itself with a conventional defense structured to meet the attack on the inter-German border. This resulted in a large number of NATO forces being in forward positions committed to immediate combat and not often able to use maneuver to their advantage. NATO also counted on a strong air effort to make up the difference in numbers between their forces and those of the Warsaw Pact. Equally vital to NATO was a timely reinforcement of Europe with forces from Blue. To achieve this, it was essential that the Blue navy maintain maritime superiority in the North Atlantic to insure the preservation of the SLOCs.

Actual combat on the Central Front occurred in four of the five games. In 1979, as noted previously, the land war was largely scripted. Red attacked, but the combined Blue/NATO forces managed to counter their advance and by game’s end had even developed counterattacks that appeared to push the forward edge of the battle area east.

In 1980 actual combat on this front was only three days old when rapid escalation of the conflict to the nuclear level occurred in other theaters. Red exerted heavy pressure against the Blue/NATO defenders, and though some sectors were heavily stressed, NATO did hold. Blue/NATO concern over the French role in the war effort prompted alliance deliberations aimed at insuring full French military participation. Blue air did well in both air-to-air combat and air-to-ground operations, but the depth and scale of Red armies made it difficult to slow the attack significantly. In turn, the Red air counteroffensive against NATO airfields caused substantial damage to ten of the twenty-three main NATO fields.

Though Blue did initiate the Rapid Reinforcement Plan (RRP) to reinforce Europe, no combat occurred on the Central Front in 1981. This year is

significant in that it demonstrated a situation where Red could attack a NATO member (Turkey) without initiating a Central Front war.

By 1982, activity had returned to the Central Front. On D-Day, Red launched a massive, coordinated attack against Europe, northern Norway, and Thrace. By the end of the second day, France had committed her forces to NATO. Red maintained the attack and succeeded in achieving substantial gains in the FRG and Denmark. On D+13 Red sought a cease-fire in place, which Blue refused. Three Blue CVBGs moved into the Irish Sea to provide additional support to the battle. Red continued the attack, advancing by the end of the third week (game end) to the banks of the Rhine, where NATO developed a holding position. In NORTHAG, the NATO line was unbroken but withdrawing under heavy pressure, and Red air had achieved superiority in this sector. Further to the south, NATO forces were better off and actually managed a corps-level counterattack. Red allies were less than stalwart, with numerous desertions occurring among Polish troops. Both Poland and Bulgaria threatened to leave the war by game's end. The 1982 game saw the first use of chemical weapons on the Central Front by Red. Blue retaliatory options for this and other chemical attacks were limited and consisted of a single chemical attack in the Transcaucasus.

In 1983, the Red offensive got off to a slow start and never really gained the momentum required. Red offered to enter negotiations virtually from the outset, but Blue refused to consider any conditions other than a return to the original borders. In an effort to achieve a breakthrough, Red built up a substantial concentration of forces and launched a major offensive during the third week. Blue/NATO ground forces were heavily pressured and Blue redeployed its CVBGs from the eastern Mediterranean and the northern Norwegian Sea to assist the defenders. When the dust settled, Red had managed to drive a salient into the Blue lines on the North German plain, but overall, the NATO line was holding. As the game ended, the situation had settled into a temporary stalemate, with neither side able to obtain an advantage.

Norwegian Sea/North Atlantic/GIUK

During the initial games of the series, SLOC protection was emphasized. Typical of this tendency was the utilization of SSNs in barriers along the GIUK gap to interdict and attrite Red forces seeking egress to the Atlantic. However, study of these first games revealed two factors. SLOC interdiction was not as high a priority for Red as initially believed. Further, there was evidence that an aggressive, forward strategy might be more effective than a passive one, even

if Blue SLOCs were targeted by Red. Indeed, this strategy addressed other concerns of Blue. Among those was Red SNA/LRA, which, if allowed to operate freely, could seriously threaten Blue maritime flexibility. A passive defense at the GIUK gap would be relatively ineffective against this threat. Moreover, such a passive strategy did not facilitate the use of Blue maritime assets and threatened to leave NATO land forces in Norway without support. As a consequence, thinking evolved to support a forward, aggressive strategy. While SSNs were used throughout to attrite Red SSBNs in their bastions, in later games they were also used to attack Red SSNs and Red surface forces, particularly those with AAW capability. Accomplishment of the latter two tasks permitted the movement of CVBGs into the Norwegian Sea to continue the destruction of Red naval units to support Norway and to pose a threat to the Red homeland.

Mediterranean

While the Central Front was the most significant theater, unless Blue paid sufficient attention to the Mediterranean, the potential existed for significant problems with Blue overall strategy. During Global War Game 1979, the substantial concern, prevalent at the time, over the inability of Blue maritime forces to survive in the Mediterranean, let alone the eastern Mediterranean, caused the CVBGs to withdraw from that sea and to mass in the Atlantic out of SNA range. The result was military and political disaster. Sigonella was shelled and rendered unusable. Red SNA and LRA deployed at every possible location, the Mediterranean became a “Red lake,” and, as Greece and Turkey were driven out of the war, NATO’s southern flank was virtually a total loss.

Such a debacle was clearly unsatisfactory, and henceforth CVBGs remained in the Mediterranean, though the 1980 and 1981 games demonstrated the danger of Red SNA/LRA and TACAIR. Nevertheless, strategic thinking shifted toward not only keeping the fleet in the Mediterranean but employing it aggressively in the eastern Mediterranean. Blue became increasingly confident that, with the proper tactics, naval forces supported by land-based air could operate effectively in the eastern Mediterranean and provide vital support to NATO allies facing a Red attack.

A consistent facet of Red strategy in this theater was to go on the offensive through Thrace with the objective of splitting apart Greece and Turkey and gaining a corridor to the Mediterranean Sea. In fact, the major cause of the war in 1981 was Red frustration with the constraints Turkey was imposing through a strict implementation of the Montreux Convention. Despite years of aid, only

one of the games (1979) saw a Red client state (Libya) take an active role in the fighting, and that was in response to NATO attacks.

Southwest Asia

Considerable attention was paid to Southwest Asia during the first three games of the series. It was there that war was then thought likely to break out. However, as real world and game events evolved, the perceived importance of Southwest Asia as a potential source of global conflict declined. The strategic focus shifted to the Central Front as Blue realized that maintaining control of the oil supplies meant little if the primary recipient, Europe, were to fall to Red.

Even if Red had been able to gain control of the Gulf oil, the time period of these games was short enough that sufficient oil would have been in transit to sustain NATO forces while the critical battles on the Central Front were being fought. However, as the GWG began to explore the “long war,” supplies in the “pipeline” as well as the national oil reserves came into question and the issue received renewed interest.

A second factor of military importance was the potential for maldeployment if considerable Blue assets were committed to this area of the world. The deployment problems would arise from Southwest Asia’s geographic remoteness. Forces committed to that area would become difficult to reposition. If the Central Front were the critical area, then any assets diverted to the Persian Gulf or Indian Ocean might require much time to be employed usefully. A further concern was the considerable demand that operations in the region placed on the logistics infrastructure. Support for Southwest Asian forces consumed a disproportionate number of assets, making them unavailable to more critical theaters. Moreover, if the games reflected reality accurately, it appeared doubtful that Blue, in the context of global war, could deter or defeat Red in this region with available conventional forces. Several games saw Red forces strike from Iraq into Saudi Arabia. Iran also was the subject of several Red attacks. Though elements of Blue rapid deployment force were deployed in advance, they were unable to muster sufficient force to halt these offensives.

Although Southwest Asia was an area in which horizontal escalation could be employed against Blue, Red experienced many of the same concerns Blue had on this issue about diversion of resources away from the critical battles on the Central Front. One value Red discovered in Southwest Asia was the potential to use gains in that region as negotiating points during a war termination phase.

Western Pacific

A major theme developed from the games was the difficulty Blue found in formulating an adequate strategy for the western Pacific theater. Though Blue's operations grew progressively bolder, striking enemy surface ships, SSBNs, and selected shore installations, his in-theater forces were not powerful enough to mount a major offensive that could directly affect the overall war within the time frame Blue commanders considered vital. As the battle raged on the Central Front and in the Atlantic, Blue experimented with means to allow the Pacific forces to contribute to victory. Red refused to be distracted from the Central Front, and Blue was unable to muster a threat sufficient to cause Red focus to shift. Consequently, in the short term, Pacific forces were unable to achieve the noticeable gains desired. However, over the long term, Red was forced to keep valuable resources dedicated to the Pacific defenses, and the cumulative pressure over a prolonged period had the potential for long-war exploitation. Further, the attrition inflicted on Red Far Eastern forces had already begun to diminish Red's ability to influence postwar events.

The apparent inability of Blue to formulate an offensive strategy to effect national objectives quickly in the western Pacific almost inevitably led to the demand that the Pacific CVBGs be "swung" west to aid in the European land battle. Blue CINCPAC saw himself faced with the "use them or lose them" option. In response to this situation, GWG 1983 featured an aggressive attack against Red SNA/SAF in the Far East. Other aspects of this more active strategy entailed the seizure of several of the Kurile Islands. North Korea's invasion of South Korea resulted in part from Red reaction to this aggressive posture.

Some general political patterns in the Pacific did emerge. Blue consistently worked toward persuading Japan to be a firm ally and to maximize Japanese support to the Blue war effort. Red meanwhile sought the opposite—to ensure that Japan take a neutral stance. The most spectacular effort in this regard was Red's explosion of three nuclear weapons over the ocean in GWG '80 in an attempt to intimidate Japan into neutrality.

Other countries in the region receiving major attention were the PRC, North Korea, and Vietnam. Blue invariably worked to bring in the PRC on its side. Neither Blue nor Red found a way to play the China card. However, during GWG 1980, the PRC-Vietnam conflict ended in a nuclear exchange that pulled in Red. Vietnam consistently acted as a Red surrogate. North Korea was useful to Red as a "threat in being," forcing Blue to keep substantial resources dedicated to the defense of South Korea. In only one game, GWG '83, did the North Korean threat materialize into an actual invasion. It was inconclusive whether this was a benefit to Red.

In summary, the first Global War Game series saw Blue and Red forces engaged in combat in widely diverse areas around the world. Consistently, the geographic focus fell on Europe and the Central Front. Concurrently, both sides conducted operations of varying intensity in other theaters that pursued limited objectives or supported certain regional-specific strategic goals.

Employment of Naval Forces

BLUE NAVAL FORCES were actively employed throughout the series, with their role becoming more focused and assertive as the participants gained experience and confidence. Blue concerns over survivability lessened, and emphasis shifted toward offensive operations against the enemy in his home waters. Eventually, Blue achievement of maritime superiority permitted strikes in the Kola and the conduct of amphibious operations against Red territory in the northwest Pacific (Kuriles).

Concerns over the vulnerability of forces to SNA/SAF in the 1979 and 1980 games heavily influenced naval employments. When these concerns were combined with the objective of SLOC defense, a principally defensive strategy resulted. However, by 1982, the Blue concept of maritime strategy had changed due to two factors. First, confidence had increased in the ability of the CVBGs to survive in the face of enemy threats. Second, it became clear that SLOC interdiction was a lower priority for Red than earlier envisioned. These later games saw a shift in the forces driving Blue naval strategy. A much more refined and coherent philosophy developed, which was oriented toward both exploiting Blue strengths and targeting Red vulnerabilities.

ASW/SSN Operations

As with many other aspects of naval warfare, the employment of Blue SSNs evolved over the first GWG series. Initially, many Blue SSNs were utilized in barrier operations at choke points that restricted Red access to the open ocean, such as the GIUK gap and the several exits from the Seas of Japan and Okhotsk. Also, some SSNs were forward deployed as part of an overall ASW campaign that included attacks on Red SSBNs.

Among the factors that prompted a change to more offensive thinking were the requirement to control the Norwegian Sea and the somewhat unforeseen result of the anti-SSBN campaign. Control of the Norwegian Sea became important in the context of SLOC protection, as noted in the “geographic

theater” section. Blue SSNs operating in conjunction with Blue/NATO maritime patrol aircraft and other Blue/NATO ASW assets were required to destroy Red surface units and submarines prior to the introduction of Blue CVBGs. In addition to their own direct ASW role, Blue SSNs, by eliminating Red surface-to-air missile (SAM) platforms, became a key element for the successful conduct of this task.

Maritime Patrol Aircraft (MPA)

Due to the scale of the game, individual interactions were numerous and too diverse to list in detail. Generally, the primary role for MPA consisted of ASW and surveillance operations, with their employment in an anti-surface warfare (ASUW) role increasing as the series progressed. MPA dependence on shore bases affected their operational use, especially in early games, where Red was able to inflict heavy damage to the Mediterranean bases. Iceland was a key location to support MPA coverage of the GIUK gap and portions of the SLOCs to Europe.

Anti-SSBN Campaign

In each of the five GWGs, Blue employed an anti-SSBN campaign, both against Red submarines deployed out of area and those in their Atlantic and Pacific bastions. These originated as part of a general ASW campaign, but the specific emphasis on SSBNs increased as the series progressed. These campaigns resulted in two advantages for Blue. The first resulted from Red’s dedicating SSNs to SSBN protection, thus making the former unavailable for offensive operations against the SLOCs. The second benefit was in the gradual attrition of theater nuclear reserve weapons. Although Blue anti-SSBN campaigns were successful, however, their significance in shifting the strategic nuclear balance was not clear.

In 1979, Red retaliated against Blue for these SSBN losses by launching nuclear attacks on Blue CVBGs in the Atlantic and Pacific, which resulted in the sinking of two carriers (CVs). The only other response to these SSBN losses occurred in the 1981 political arena, when Red used the SSBN campaign as one example of Blue’s “unduly provocative” behavior aimed at “nuclear war.” Except for the nuclear attacks in 1979, Red could not find a military response to counter these losses.

CVBG Employment

The strategy for the employment of the carrier battle groups changed over the series. In the 1979 game, the CVBGs were withdrawn from the Mediterranean because of concerns over their survivability in the face of Red air attacks. As a result, the eastern Mediterranean became a Red lake. A Red cruiser shelled the Blue air station at Sigonella, rendering it unusable. Greece and Turkey were driven out of the war, and NATO's southern flank was in total disarray. By game's end, Blue was trying to devise a campaign to re-enter the Mediterranean. Blue employed the Pacific Fleet CVBGs in a similar manner. They were withdrawn to the safety of the Central Pacific, although in this instance Red did not act as effectively as in the Mediterranean.

In the 1979 game, the two CVBGs withdrawn from the Mediterranean joined, at a position south of the Azores, with two CVBGs sortied from Blue. From this position, out of SNA range, they provided support to the naval forces defending the SLOCs to Europe. Two additional CVBGs were sent from the Indian Ocean, around Africa, to join the Atlantic forces.

Once hostilities began, Red air, using nuclear weapons, sank two Blue CVBGs in retaliation for Blue attacks against SSBNs. Later, offensive strategies were foreshadowed when an aircraft carrier battle force (CVBF) moved into the Norwegian Sea. This group was able to gain sea control, though the cost included the loss of a CV. As the game ended, Blue was considering how to use the CVBGs effectively to support the Central Front.

CVBG employment in 1980 was largely overshadowed by the nuclear battle. Within a short period, four CVBGs were lost to Red nuclear SNA/SAF attacks, with a fifth loss following shortly afterwards.

By 1981, Blue CVBGs were being used more aggressively. Blue held firm in the eastern Mediterranean. Though two CVs were lost there to conventional (non-nuclear) attacks, Blue reflecting on the debacle of 1979, assessed that the loss was still better than the consequences of a withdrawal. The loss of the CVs happened at least in part because the battle force (BF) expected and prepared for a nuclear attack, which reduced its ability to defend against a conventional attack. When Blue began using nuclear weapons against Red bases in the Transcaucasus, Vladivostok, Alexandrovsk, and Petropavlovsk, CVBG employment again lost emphasis as the focus shifted to controlling and eventually stopping the nuclear spiral. As part of the series of exchanges, SNA sank three CVs in the Pacific, using nuclear weapons. In this case the three CVBGs were together and were well prepared. Nevertheless they were overwhelmed by a massive Red air attack in which Red sent every airplane which could fly, whether or not it carried weapons.

Blue adopted a forward offensive maritime strategy in 1982 with the aim of sinking the Red navy and exerting pressure against the enemy's home territory. Yet the effort began conservatively. Mediterranean CVBGs initially withdrew to the west while Pacific Fleet CVBGs fell back to the Central Pacific. After the initial situation stabilized, the CVBGs moved forward and initiated offensive operations. In the Mediterranean, the CVBGs assisted in countering Red advances in Thrace and supported the Blue amphibious response. In both the Atlantic and Pacific, CVBGs struck at Red surface forces, resulting in their virtual elimination. Indian Ocean CVBGs supported forces resisting Red land attacks, but suffered heavily from a combined forces attack. After establishing sea control, three Atlantic Fleet CVBGs began supporting NATO forces on the Central Front from a position in the Irish Sea. These Central Front TACAIR sorties, however, were assessed as generally less effective than expected due to their small numbers as compared to the overall theater air assets.

The 1983 game saw CVBGs more fully utilized in an offensive posture. Carriers supported NATO/Blue forces in North Norway and struck Red installations in the Kola. These maneuvers caused enemy forces to concentrate on defensive operations to the detriment of efforts against Allied forces in Norway. In the Pacific, CVBGs mounted an offensive that struck Red forces and installations. The SNA/SAF was severely mauled and the CVBG attack provided cover for an amphibious assault in the Kuriles. Mediterranean CVBGs initially conducted strikes against targets on the southern flank but were withdrawn to the west to increase Blue air on the Central Front. This withdrawal meant they were unavailable to provide support to forces countering a late-developing Red thrust into Southwest Asia. However, their air power, in conjunction with those CVBGs that moved south from the Norwegian Sea, served to supplement other NATO air to stop a massive Red attack on the Central Front. In this effort, CVBG TACAIR combined to play an important role in tipping the balance to stop the Red effort to achieve a breakthrough. At game's end, this Red drive had been halted.

Consistent with the experimentation at the strategic level, Blue CVBG employment demonstrated a wide range of flexibility. Using insights from earlier games, Blue worked throughout the series to refine CVBG operational employment. A primary reason for change was the shift from an initially defensive orientation to a more offensive role. This was a result of the growing appreciation of the greater benefits a more aggressive stance achieved. The principal factors that allowed the CVBGs to survive forward operations were improvements in tactics, electronic warfare (EW), cover and deception, and resource coordination.

Blue made several attempts to support the battle on the Central Front with carrier air. While additional air support was invariably welcomed by the European commanders, there was significant controversy over the effect on the overall theater balance. All-weather, low-altitude attack aircraft were much sought after, and at certain times, particularly in the COMBALTAP/2 ATAF region, these aircraft did positively affect the area balance. However, on the whole, Blue preferred the carrier to be used in a mobile striking role on the flanks.

CINCPAC was continually under threat of losing his CVBGs to the European theater to support the campaign there. Therefore, thinking tended toward a “use them or lose them” approach, and an aggressive strategy resulted. GWG ‘83 saw this trend reach its zenith as PACFLT’s aggressive attack decimated the undispersed SNA/SAF in the Far East and supported an amphibious invasion of several of the Kurile Islands.

Sustainability of carrier air wings was a matter of some concern. Heavy usage resulted in steady losses which became significant over an extended period. Reserve forces, in conjunction with the consolidation of air wings from damaged CVs, provided some help, but not in numbers sufficient to meet all demands. As a result, in the “mid-term” period of D+30 to D+180, attack aircraft were likely to be scarce. One solution offered as a possibility for alleviating some losses was greater use of TLAM-Cs against air defenses and heavily defended targets.

Use of CVBGs in horizontal escalation against the Red surrogates was one option that was deemed secondary unless Red SNA/SAF were deployed there. Blue quickly realized that these surrogates could be dispatched later or left to wither.

Conceptually, the employment of CVBGs provided one of the best examples of maritime strategy. From an initial, essentially defensive role, the CVBG moved into more offensive roles that carried the battle to the enemy.

Mine Warfare

Both sides routinely used both offensive and defensive mine warfare in support of maritime operations. Red tended to utilize mines to a greater extent than Blue, consistent with their larger stocks and doctrine. Aside from conventional minelaying, Red also used clandestine methods, such as fishing boats and merchant ships, to mine NATO ports prior to D-Day.

Red frequently utilized mines against key choke points, including the Strait of Gibraltar, the Strait of Messina, and the Strait of Sicily. During the 1979 game, Red mined the Blue re-entry points to the Mediterranean in order to

prevent the return of the CVBGs. Later, in the 1982 game, Red mined the Straits of Sicily and Messina in an attempt to confine the Sixth Fleet CVBGs to the western Mediterranean after they had been moved into this area to support the battle on the Central Front. The following year, Red attempted a similar tactic by sowing aerial mines at the entrances to the Norwegian fjord where Blue forces were operating. In various instances, Red used mines offensively in areas such as the Strait of Florida, Strait of Hormuz, and the English Channel. Defensively, Red employed mines to assist in the protection of its SSBN bastions and home ports.

Blue also utilized mines, though on a smaller scale than Red. One consistent focus was an effort to confine the Red Baltic Fleet by mining the exits from the Baltic. Additionally, Blue dedicated considerable resources to the mining of parts of the GIUK gap. Offensively, Blue's most significant effort was seen in 1981, when Red Pacific Fleet ports were mined in order to confine the enemy fleet and to relieve the CVBGs from "guard duty."

Tomahawk Employment

The requirement for a long-range attack weapon was noted in the first game report (1979). Such a weapon would be a vital component of any early, aggressive campaign against Red maritime assets, particularly SNA/SAF. As the Tomahawk land attack missile (TLAM) moved from concept to reality, its usage in GWG also developed.

The first significant use of the TLAM was during the 1981 game, where it was utilized in both the conventional and nuclear variants. In the former mode, it was used against Red SNA/SAF bases in the eastern Mediterranean and Black Sea regions. As the conflict escalated to the nuclear level, the nuclear version was employed against Red bases in the Transcaucasus and on the Pacific coast.

Both the 1982 and 1983 games saw increased use of the conventional variant, and its value against heavily defended targets became increasingly apparent. An important aspect was its capability to be employed during the early stages of an air campaign in order to reduce losses among attack squadrons. Tomahawk strikes against enemy surface-to-air missiles and radar and ground controlled intercept (GCI) sites immediately prior to an air strike proved to be a particularly effective tactic. This had considerable value, as attrition of aircraft and aircrews was identified as a serious problem in the period D+30 to D+180.

In 1983, a subsidiary (“off-line”) game was conducted with the objective of rigorously studying the potential and application of both the conventional and nuclear Tomahawk configurations. The significant insights were:

TLAM-N

- Produced an additional deterrent consideration during the prehostility phase.
- Surface and sub-surface platforms equipped with the weapon deployed around the periphery of Red created a serious targeting problem for the enemy.
- In the event of a nuclear war, TLAM-N provided escalatory options that otherwise did not exist.

TLAM-C

- As noted above, this variant was a valuable aid in strikes against heavily defended targets and also reduced friendly losses.
- Early attacks on Red SNA/SAF bases were highlighted as areas where the weapon’s capabilities were particularly useful.

From experience in the 1981 game and the 1983 off-line game, nuclear Tomahawk variants [Tomahawk land-attack missile-nuclear (TLAM-N) and the ground-launched cruise missile (GLCM)] offered valuable but less threatening nuclear employment options. Instead of a ballistic missile with an unknown number of warheads approaching a target in the Red homeland, a slower, less threatening vehicle was delivering the weapon.

Marine Corps

Concurrent with trends in other areas, Marine Corps employment also underwent evolutionary change. Early games saw the Marines extensively involved with the RDF and operations in Southwest Asia. However, while the Marines committed to this effort constituted a valuable resource, they faced the same problems the RDF as a whole faced—Red forces in theater were numerically superior and possessed short, well-defended supply lines. In contrast, the RDF started out with a significant numerical disadvantage and was at the end of an extended and vulnerable supply train. Reinforcements were limited, as other theaters had equally pressing demands. Additionally, the lift assets available to deliver reinforcements and logistic support were also limited.

Thus, the Marines were part of a force that faced a battle in a remote region of the world, in a disadvantageous position with little prospect for help.

Consequently, Marine involvement in this area entailed primarily withdrawals or defensive operations, roles which did not fully utilize their capabilities. As a result, Blue began to emphasize their use in other theaters where their unique talents could be better exploited.

A primary region for such use was northern Norway. Though Marines had been committed to the defense of Norway throughout the series, initially their role was to bolster defense. Marines deployed to ground positions in Norway as well as to Iceland with aircraft and SAM batteries. However, in line with the overall shift in Blue thought, Marine employment changed to a more active offensive campaign of amphibious assaults against the advancing Red forces. Such operations contributed directly to enhancing the security of the NATO northern flank and threatening Red base areas. Marine air was particularly valuable in these operations. Shore-based aircraft directly supported NATO ground forces, aided the defense of CVBGs, and were a significant component of the air campaign against Red installations in the Kola.

Marine activity in the Far East underwent a pronounced change. At first the Marines were engaged in static defense or acted as a force in reserve. Principal roles included the reinforcement of Korea and the Aleutians. By 1983 the Marines were actively engaged in offensive amphibious operations against Red-occupied islands in the Kuriles. These operations were significant from a strategic perspective in that they infringed on the flank of Red Pacific Fleet SSBN bastions.

Marines were also active in the Mediterranean. During several games, Marine forces were landed in Thrace to support Greece and Turkey. Their efforts were important components of the Blue reaction to the Red 1981 offensive to seize the Turkish Straits and a corridor to the Mediterranean. Marine actions in both GWG 1982 and GWG 1983 against the Red southern flank caused the enemy to focus additional attention on this area. The 1983 operation drew more Red attention because of the stalemated conditions on the Central Front.

Chemical and Nuclear Warfare

CHEMICAL AND NUCLEAR WEAPONS received varying degrees of play during this series. During the five games, a gradual evolution in thinking was evident regarding the use of nuclear and chemical weapons. From a nuclear perspective, a conviction developed that neither Blue nor Red appeared to gain from escalation to nuclear warfare. Red saw nuclear use as negating the Red conventional advantage; Blue operated from a perceived position of inferiority in tactical and theater capability. Thus, any venture into the nuclear arena came to be seen as undesirable by both sides. Thinking about chemical weapons also changed over time to a point where an almost total decoupling developed between chemical and nuclear employment. Blue did not believe that it had the chemical weapons to match Red and feared the escalatory possibilities of even a limited nuclear response. Overall, both Blue and Red realized that escalation-control considerations became governing factors for retaliatory options.

A Blue potential for nuclear advantage emerged early in the series when Blue discovered that its SSNs could aggressively seek and destroy Red SSBNs, while Red had little apparent conventional counter to these losses. Red, unable to locate Blue SSBNs, had no obvious options for retaliation other than those involving nuclear use, but such options went against the resolve for nuclear avoidance. Red reluctantly accepted the SSBN attrition and a slight shift in the nuclear balance, as any other alternative entailed the possibility of nuclear war.

In 1979, Red utilized nuclear weapons to destroy two CVBGs. This was announced by Red as a one-time strike in retaliation for Blue attrition of Red SSBNs. Blue responded with a one-shot retaliation against a Red formation in the Norwegian Sea. Blue had a difficult time settling on an appropriate target for retaliation. Finally, a Red surface action group (SAG) dedicated to anti-carrier warfare tasks was selected. No chemical weapons were employed in the 1979 GWG.

In the 1980 game, Red commenced with a “go for broke” objective of attaining control over the Eurasian landmass. This involved early use of heavy chemical attacks focused on Iceland, the Azores, and Guam, and the detonation of three nuclear weapons east of Japan to intimidate that government into

neutrality. Blue retaliated by using a nuclear weapon against Red SNA/LRA deployed to Aden, partially because of resource limitations and partly to shock Red into realizing the seriousness of Blue resolve. Red struck back, destroying three CVBGs by air-launched nuclear weapons and another by submarine-launched nuclear missiles. A Blue attempt to destroy two *Kiev* SAGs with nuclear-armed A-6s failed as the attacking aircraft were lost. Blue reluctantly considered countering Red chemical use by a nuclear attack on a target in Poland but was dissuaded by the other members of NATO. Both sides provided nuclear weapons to their allies and a number of exchanges occurred, culminating in a massive exchange between Red and the People's Republic of China. Negotiation for war termination began when Blue, via the "hot line," threatened SIOP release.

Nuclear forces were utilized in the 1981 Game, with Blue the first to resort to them. Blue was confronted with a rapidly deteriorating situation in eastern Turkey and Southwest Asia. Believing that options were limited to strategic withdrawal or escalation across a nuclear threshold, Blue chose to examine the consequences of nuclear escalation with the new TLAM-N weapon system against Red bases in the Transcaucasus and at Petropavlovsk and Alexandrovsk. (The latter is on Sakhalin's west coast.) Red retaliated with attacks against a CVBG and against Diego Garcia and Guam. Blue provided nuclear weapons to Turkey, which promptly used them against Red in Thrace, to which Red countered with nuclear strikes in eastern Turkey. No chemical warfare was involved in this game.

No nuclear weapons were used by either side in the 1982 and 1983 GWGs, although the 1983 game did involve an off-line game to explore the potential of the TLAM-N. In contrast, chemical warfare was widely utilized by Red in the 1982 game, particularly on the northern flank. Blue and Norwegian forces and bases in northern Norway were attacked on more than one occasion, as was Iceland. Chemical weapons were also employed by Red against other selected locations, including Adak, Izmir, and bases in Italy. Blue retaliated with a single chemical strike upon Red divisions in the Transcaucasus.

It appeared that Blue perception of the nuclear balance had much to do with the decisions on nuclear weapons use. In the 1980 GWG, Blue threatened escalation to the SIOP level to bring about a cease-fire of sorts. In 1981, Blue made first use of theater/tactical nuclear weapons to try to retrieve losing situations in Turkey and Southwest Asia. In the 1982 and 1983 games, both sides refrained from using nuclear weapons; Red, because of the belief that their limited aims could be attained without them, and Blue, because of the perception that an exchange at any level would work to Blue's disadvantage.

The history of the games seemed to favor Red insofar as escalation dominance at the theater/tactical level was concerned. This was not only the result of having more weapons of more different types and capabilities, but also of the fact that Red had more targeting flexibility than Blue. Indeed, through strikes at insular bases, Diego Garcia and Guam for example, and at high-value naval targets such as CVBGs, Red had a range of targets apparently not available to Blue. Strikes against targets of these types produced limited collateral damage. Thus Red, in the early games, appeared to have the potential to escalate and to decouple nuclear use at sea from the conventional war on the Central Front, an option that Blue seemed to lack without risking massive nuclear preemption or retaliation by Red at either the theater or strategic level.

Red, in later games, sought to avoid initial use of nuclear weapons. Two primary factors shaped this policy. One was a reluctance to risk the homeland, as any nuclear use could start a dangerous escalation. Second, Red perceived that its conventional forces were more than adequate to perform the task required and saw nuclear employment as counterproductive.

Blue/NATO's response to Red chemical initiatives was another issue. It did not appear advantageous to the Blue NCA players to respond to chemical attacks by selecting the nuclear option. A nuclear reply, while demonstrating resolve, was not an option utilized, as Blue not only feared escalation but also perceived that it had neither the weapons nor the range of targets suitable for employment.

A related issue that evolved from the 1980 and 1982 Global War Games was whether or not chemical weapons could be used by Red without prompting a nuclear response. Some analysts suggested that Red perceived both nuclear and chemical weapons as weapons of mass destruction, both to be eschewed unless Blue were the initiator. Further, if Red were pushed to first use, it was asserted that chemical weapons would not be employed alone but would be used with nuclear weapons. If this proved to be true, then the Blue response problem would be clarified, as nuclear initiation must be followed by nuclear response, targeting problems notwithstanding. However, if chemical use alone were begun by Red, and Blue saw no advantage to nuclear initiation, then Blue, if it had limited chemical capability, would be hard-pressed for a sufficient defense, let alone an adequate counter. If in fact Red considered chemical weapons as conventional weapons, as Red doctrine, exercises, and training suggested to some analysts, Blue would have difficulty in developing an appropriate response.

Political/Military Considerations

War Initiation

RED INITIATED HOSTILITIES in all five Global War Games. While many factors influenced the Red decision to go to war, the primary motivation was a perceived threat to Red security or, less often, a window of opportunity. One of the threats which affected Red was the specter of rebellion in the Warsaw Pact. Faced with unrest and the possibility of open revolt in one or more Pact countries, Red saw the elimination of Western influence as a solution to the problem. A significant transition occurred in the Red approach to the war initiation process as the series evolved. In the early games, Red entered with the clear game objective of launching a war. However, as the series progressed, war initiation became less driven by design and more influenced by events. This evolution continued until, in 1983, as the situation in East Germany and Poland deteriorated, Red believed it had no alternative but to act before it was fully prepared. (A primary factor in this evolution was the change in the composition of Red game players. The replacement of officers and civilians with intelligence professionals, whose focus as Red players was primarily on U.S. policy and strategy, undoubtedly resulted in a more accurate portrayal of actual Red thinking.)

One participant in the 1979 game discussed the events leading up to war initiation in some depth. He highlighted significant disadvantages that Blue would face in a scenario where Red started the war. As the initiator of the “first salvo,” Red realized a major advantage that could result in a favorable force ratio which would carry over into subsequent battles. The dilemma facing the Blue president and his advisors was how to maintain an optimum degree of military readiness without crossing the line to provocation. In fact, as the participant pointed out, Red could “exploit [a Blue] pressure for caution up to the last minute,” offering deceptive proposals and other incentives for Washington to avoid any incident. Avoiding incidents means tightly drawn rules of engagement that would delay the release orders for the navy to use its weapons—delay them well past the first Soviet salvo. “Thus, in an actual

situation, where those involved do not see war as inevitable, there would be strong pressure not to institute measures that could further increase tension.” Methods such as a cordon sanitaire, a protected area of defense in which no belligerent passage is tolerated, while they produce some tactical advantage, were evaluated as not being worth the “cost” in increased tensions during such a sensitive period.

However, an interesting avenue for exploration was how Blue could use the crisis situation to best advantage. A predetermined war plan required a relatively strict adherence to a schedule to ensure that critical massing of power occurred at the proper time. Because of this inflexibility, Red was virtually forced to tolerate a number of Blue actions and maneuvers in order that war not occur before Red forces were fully mobilized or at least in an advantageous position. The obvious critical variable was Blue’s ability to assess the Red situation. Blue found it could exercise more tactical authority early in the mobilization cycle if Red was not yet ready to go to war.

As the series progressed, and war began less as a result of Red aggression and more as a result of events unsought by Red, Blue initial force deployment changed. During the 1979 game, Blue CVBGs were withdrawn from forward positions with the aim of reducing their vulnerability to a preplanned first salvo. As the perception changed and events took a greater role, Blue became less concerned with maneuvering and positioning his forces against the Red first salvo. Instead, Blue, in accordance with a more aggressive strategy, placed its forces further forward to be in position to commence early offensive tactical operations.

Managing the situation during the prehostilities phase became a vital issue for both governments. Each sought to advance its perceived interests without disaster, while working to salvage a worsening situation. The game environment was purposely designed to be ambiguous and reflect with increasing accuracy the confusion that would actually exist during such a period. A motive behind this rationale was the philosophical position that generally great wars are not deliberately started on the basis of reason. The triggers that could possibly start a superpower war over or in Western Europe were recognized as extremely difficult to identify. However, it was generally agreed that starting a war would require a series of events or miscalculations of catastrophic proportion—some, if not all, of which would have to be considered by both major belligerents as critical to their own survival. This approach was characteristic of the later games only and reflected the increased realism that the inclusion of intelligence and other professionals provided to the game. Perceived threat to vital interests and miscalculation, working together, were assessed to be the most likely ingredients that would result in such a war.

Long/Short–Term War

Considerable development of the long-war concept occurred as a result of the Global War Game series. Initially, both sides envisioned a short war. A Red initial conventional advantage in Europe usually meant Red was able to make significant advances into NATO territory on the Central Front. Blue/NATO's "in place" forces on D-Day were hard-pressed to maintain a cohesive front, much less push back Red. In line with stated objectives, Blue refused to consider any war termination other than a return to the "status quo ante bellum."

The preference for a long war accrued from the experience of the series. All five GWGs showed that Blue was placed under considerable pressure during the first thirty days of the war, particularly in Europe. After the 1980 game, published game insights stated that Blue could not expect to win a short war. The following year, GWG '81, Blue listed as one of its military game objectives the avoidance of an early defeat. GWG '82 continued this evolution further and was the first to question the validity of any "short-war" strategy and made an attempt to explore the transition period from short to medium or long war (beyond thirty days). By 1983 the game, though still extending only through the short-war period, was actively seeking to explore the implications of a long war, particularly the logistical aspects.

Avoidance of nuclear weapons use was a major factor in the shift toward the concept of a long war. Since neither side perceived escalation to the nuclear level to be advantageous, the quick resolution of the conflict through nuclear employment seemed no longer practicable. The consequences, then, of two perceptions—Blue's inability to successfully terminate a short conventional war and a reluctance to risk nuclear escalation—drove Blue to investigate the option of a prolonged conventional war.

Combining the Central Front aspect with a global perspective, Blue began to see advantages to a long war. Most significant was that an extended time period allowed Blue to bring the full weight of its industrial capacity to bear. Blue also benefited from the resources existing in its allies and friendly nations, many of which are well removed from the immediate battle area. In contrast, Red's primary allies were in Eastern Europe, close to or in the battle area, and were unlikely to be able to add much additional capacity; instead, they would likely suffer a decreased output.

As the potential for a longer conflict developed, Blue appeared to realize another advantage, regarding the availability of food. When Red mobilized, a significant portion of its agricultural work force and transportation resources had to be diverted from food production and distribution. Additionally, all grain imports ended. Blue, with a more productive and less manpower-intensive

agriculture, particularly when augmented by supplies from Canada and South America, enjoyed a steadily growing advantage. Should Blue target Red food distribution and production systems, Red could face a significant long-term problem. Food shortages also offered a means of creating discontent among Red internal nationalities and satellites.

Red satellite countries remained predominantly loyal during all five of the games. However, there were several instances toward the end of the 1982 and 1983 games where rumblings of dissent were evident, and the continued Pact participation of at least two Eastern Bloc countries was in question. A prolonged war, combined with food shortages, would further stress the Warsaw Pact and could result in significant benefits for Blue.

A major advantage Blue enjoyed as the war lengthened was its ability to harness global resources. Horizontal escalation strategies, which seemed to produce limited results in a short war, would offer the potential of providing greater benefits. Some of the losses that Red could afford to ignore in a thirty-day war could severely impact Red in a long-term war effort. Strikes against economic and transportation targets could result in cumulative degradations to Red infrastructure. Continued Blue naval attacks against the Red Pacific coast and northern flank resulted in lessened Red naval capabilities. The mobility and striking power of the CVBGs during such an extended period of conflict could become increasingly significant.

Although long war was considered one of the more promising Blue options, the concept had not been studied sufficiently to determine its validity. Many variables had to be considered, the most important of which were logistic stockpiles, war production, and consumption rates. A key question was whether Blue forces could hold until their industrial and economic advantages were brought into play.

Another problem facing Blue was the political aspect of prolonging this war. The transition phase is critical. Should Red advance and occupy a major portion of the FRG and then declare its desire for a cease-fire with no further forward movement, would Blue be able to maintain the required determination among its people and allies to continue hostilities? An important factor, but one beyond the art of war-gaming to explore effectively during this series, was the notion of national will. During a global war, the public would be subjected to an unrelenting chain of major shocks. This process would begin with increased tension of the crisis period preceding the outbreak of hostilities. Expectations would rise and fall as both sides sought a solution to the root problems. As the war continued, large combat losses would be bound to affect public opinion on both sides. Few in the public at large fully understand modern war, and consequently there could be considerable confusion and rumor. Concurrently,

the natural urge of a nation to unite in the face of a threat would be manifest. The central issue relating to “national will” faced by both Blue and Red leaders in a long war becomes whether the “negative” factors (heavy and extended casualties) can overcome the “positive” factors (patriotism and national determination).

While Blue transitioned to a preference for long war, Red was perfectly content with a short and limited war. In fact, in GWG ‘83, Red considered the problems of limited manpower for harvests and the stoppage of foodstuff imports, but did not become overly concerned; it still pressed for a short war solution. Red was convinced the war would end when its forces reached and stopped on the western border of the FRG—at the most a forty-five-day war by the Red calculation. The Red assessment was that ample war reserves and war production capacity existed to achieve these immediate war aims. Such a conflict suited Red purposes well. Ideally, Blue would accept the “inevitable” and recognize Red gains in return for peace.

Horizontal Escalation

A major theme in this series was the issue of horizontal escalation or war-widening. The term described a means that Blue might employ to utilize military force against Red off the main axis of attack. Ideally, such an attack would have a high probability of success and result in an adversary’s facing an initiative that threatened a vulnerable flank. Red would then have the option of diverting forces from the primary offensive or suffering heavy losses as the flank attack succeeded. Blue intended to use this as a strategy to bring pressure against Red away from the Central Front. Horizontal escalation was used under varying conditions of crises, transition to war, and war.

The use of this strategy both during and before hostilities is of particular interest. This series explored the extent to which it might be possible to signal, threaten, or act in ways that would inhibit the worsening of crises or attack. In war, and looking ahead to war termination, horizontal escalation was sought to provide players with leverage to reverse earlier adverse actions, offset enemy gains, or make gains that advanced their own policies and objectives.

Complicating Blue efforts at horizontal escalation was geography. Reaching potential Red vulnerabilities was difficult. The West, with its Central Front, already involved considerable forces. Arctic conditions and inaccessibility precluded a northern attack, although the Norwegian Sea did offer some potential. Actions against the Red southern flank entailed transiting nonaligned countries, and the sheer distances involved to support such an action were

staggering. Additionally, the forces Red had stationed in that area were normally sufficient to counter any attacks. The final direction, the east, also presented difficulties, but was the area with most promise.

Blue did mount some attacks against eastern Red, with the 1983 game demonstrating the greatest success. However, the overall effectiveness of these actions was constrained by several factors. First, commitments of forces elsewhere limited the assets Blue could employ in pursuit of its strategic objective in this theater. Again, geography exerted an influence; the Red Pacific coast is sizeable. While strike operations could achieve results against selected targets, efforts on a scale necessary to cause major national concern or divert Red focus from Western Europe appeared to require far larger of forces than Blue possessed in theater.

During the GWG series, in spite of the geographic difficulties, Blue attempted to find a Red vulnerability in four major geographic areas: North Norway, the eastern Mediterranean, Southwest Asia, and the northwest Pacific. Examples of these actions included:

- In GWG '82 and '83, Blue augmented its fighting forces early in North Norway. Red, on these occasions, did feel a threat to its northern flank and diverted a limited number of forces from formations that otherwise would have supported the Central Front. Indeed, Red used chemical weapons in GWG '82 to attempt to avoid shifting conventional forces. Red concern was not only the Blue land forces in Norway but also the success Blue had achieved in the naval battles for the Barents and Norwegian Seas and the consequent denial of defense in depth against Blue TACAIR or the potential for B-52s coming over the pole to threaten the Kola and the interior.
- In GWG '82, the CVBGs in the eastern Mediterranean and Blue operations in Thrace caused Red to realign and divert additional forces to support its planned attack in Southwest Asia and Thrace. As the game played out, Red proved unable to win quickly and decisively in Thrace. It took approximately eight days for Red to reinforce the campaign. Meanwhile, the stalled Red forces in the Southwest Asia attack remained static. Red TACAIR and LRA units were required to reinforce the Thracian campaign. Although not catastrophic, this effort did reduce the capability of Red to reinforce the Central Front.
- In the Indian Ocean, Red perceived that Blue could not seriously reinforce or support any land campaign. This was also a Blue perception. Blue was content to destroy the Red Indian Ocean *eskadra*. This did not appear to cause Red major strategic problems.
- In the Pacific, Blue aggressiveness with naval forces progressed over the series in an attempt to cause Red to divert or withhold assets from the Central Front. The search for a worthwhile and attainable campaign objective

culminated in GWG '83 with an attack that decimated Red SNA/LRA in the Far East. Other aspects of this more aggressive strategy involved invading several of the Kurile Islands. North Korea's invasion (GWG '83) of South Korea resulted in part from Red reaction to this aggressive posture. While Red was not made to shift his focus from Germany, which was what Blue was looking for, Red probably retained forces in the Far East that might otherwise have been shifted west.

Game play throughout the series demonstrated little Red desire to deviate from the narrowly focused objective of "Europe first," after defense of the homeland. Finding a tactical lever or strategic handle that could be used by Blue to alter dramatically the course of the war was difficult. Blue realized that some attempts could actually be counterproductive. Rather than creating problems for Red on his flanks and causing the diversion of forces, a consequence might be instead that Blue forces would be diverted from areas of greater need.

A factor which did affect this situation was the short time-span of games. Blue actions caused a Red reaction, but these reactions were often not immediately obvious. In terms of warfighting, two games were only five days in duration, and the longest was thirty days. Evidence indicated that some Blue actions would cause the beginning of a reaction, full implications of which were still to be felt as the game ended. Evidence on this point was seen in the 1983 game when the stalemate on the Central Front did change the equation somewhat. The situation then approximated that likely to occur in a long war. Red's perceptions of operations on his flanks (northern Norway and eastern Mediterranean) were magnified, and events he previously considered mere gestures became threats that caused Red to begin a reallocation of selected forces as a counter.

The threat of horizontal escalation had an effect from the beginning. As Blue forces threatened Red flanks, Red was required to keep a number of assets positioned to defend them. While each individual response did not seem significant, the cumulative effect was sizeable and denied Red the use of those forces elsewhere.

Red too was able to use horizontal escalation. In GWG '83, Red was able to persuade North Korea to attack South Korea, thus diverting Blue assets from the Kuriles and attacks on Siberia. Further, Red made a move into Southwest Asia relatively late in the game that found Blue too thinly spread to respond. However, though Red realized advantages in these situations, overall it also experienced a number of situations where its forces were diverted by its initiation of horizontal escalation. It also should be noted that most Red efforts in war-widening were results of failure to terminate favorably the war in the primary theater of action.

Horizontal escalation by Blue evolved as an endeavor to obtain leverage against Red to compensate for Central Front deficiencies. This leverage, ideally, would force Red to reconsider war objectives, divert forces, or seek termination on terms more agreeable to Blue. An additional aspect was that success on the flanks would give Blue more useful options in a longer war. In a short war, the concept did not cause a major problem for Red. However, the potential for horizontal escalation appeared to increase with the length of the conflict. Actions which Red could afford to ignore in the short term might begin to harm him over time. When progress was halted in Central Europe, the flanks assumed increased importance for both Blue and Red.

War Termination

Termination of hostilities usually centered around the situation in Europe. Red would often achieve a significant penetration into the FRG and then seek negotiations. The hope was that Blue/NATO would agree to a “cease-fire in place.” Once such an agreement was reached, Red estimated that this would constitute a *de facto* recognition of its gains and that Blue/NATO would be unwilling to recommence hostilities. Blue foiled this effort by refusing to enter into substantive negotiations without return to a territorial “*status quo ante bellum*.” Neither side was willing to accommodate the other’s position, and thus no real progress toward termination was achieved. As a result, the remaining option appeared to be a “long war.”

The only instance where negotiations were effective was in the 1980 game, where nuclear exchange had progressed considerably up the escalation chain. Blue was at a disadvantage and saw events getting out of control. As a result, it threatened SIOP release unless an immediate cease-fire occurred. Red agreed, and both sides terminated hostilities, although Red viewed this as but a temporary suspension of the war.

In 1983, Blue determination to accept nothing but a full “*status quo ante bellum*” resulted in a lost opportunity to obtain a relatively acceptable end to the war. The Red initial attack stalled only a short distance into German territory, and Red offered a “cease-fire in place.” Blue refused, and Red brought up the second strategic echelon and achieved greater penetration into Germany. Blue’s insistence on the “*status quo ante*” resulted in a substantially less favorable negotiating position.

It should be noted that sentiment for “*status quo ante bellum*” was the position of the NATO Alliance. This was particularly true in GWG ‘82, although in that game at least one of the smaller allies was contemplating a separate peace.

War termination considerations created major difficulties for both Blue and Red. Blue was confronted with situations such as that of the 1983 game, when a potentially acceptable end to the war was achievable with only a small loss of German territory. For Blue, however, it was both a political and a moral imperative to reject any agreement that would forsake any part of Europe. For Red, it was next to unthinkable to give up that for which so much blood and treasure had been expended. While detailed examination of these kinds of war termination issues was a noteworthy objective, the games of this series did not mature to the level where the political, military, and popular pressures necessary to override such a stand could be played, communicated, and felt by the participants.

The inability to work out an acceptable negotiated settlement, combined with the determination of both Blue and Red to avoid nuclear use, were important series insights.

Epilogue

With the second Global War Game series (1984–1988) complete, and the third ongoing, the significance of the first series is apparent. It is only with the perspective time provides that the importance of some of the trends established in the 1979–1983 games becomes clear. Insights derived from those games can be broadly divided into those associated with the game process and those connected with issues raised.

The expansion of the game in terms of military participants has been discussed at some length in previous pages and seems obvious, given the circumstances of the first game. However the increase in civilian involvement was ongoing and substantial. From the outset, there was an appreciation that senior civilians would have a different and more realistic appreciation of the political process than would senior military officers, and efforts began with the first game to obtain the best qualified civilians available to play major roles in the Blue National Command Authority (NCA) and the Red Supreme High Command (VGK). Further, as the Global War Game gained stature, the accuracy of the results became crucial. Without realistic policy decisions to guide the military aspects of the game, issues raised and insights gained could well be flawed or irrelevant.

Additional civilian participation was required as the emphasis of the game shifted from that of a short war, terminated possibly by the launching of nuclear weapons, to that of a protracted conventional conflict. This increased the importance of studying industrial mobilization and that involved the participation of a number of government agencies to share in the planning process. Questions regarding priority of force reconstitution were raised, as well as the related concerns of lead time and cost. The impact of a long conventional global war on national and international economies required study as well. Most important, however, was the question of resource mobilization to overcome the perceived initial Red numerical and logistical advantages so that Blue could maintain its alliances and finally prevail. The “game-study-game” cycle allowed to for the military became a fixture in some government agencies as well, as they used the period between games to develop solutions to economic problems

raised in previous games. In retrospect, the Global War Game series can be seen to have been the motivator for significant “real world” planning for the mobilization of resources and industry.

The trend for increasing involvement of both military services and civilian agencies of government developed in the first series of the Global Game has been most significant. Not only have the games stimulated both military and civilian participants to explore real world problems in depth and to develop solutions, but they have done so in a common forum. It is through this means that Global has been able to make significant contributions to national policy and preparedness.

From a military perspective, one of the most valuable results of the first Global War Game series was that it forced game participants to test “accepted truths” in a realistic simulation. The consequent modifying or discarding of what had been accepted as “gospel” permitted a new appraisal of how a war between the superpowers might better be waged. In this, Global served the same purpose of longitudinal study as did the Orange Plan games of 1930s. Some examples of what had been the conventional wisdom and that lost credibility when tested in the series are:

- War between Blue and Red would “automatically” become nuclear.
- Blue defense of Europe was impossible without recourse of nuclear weapons.
 - A barrier across the Greenland-Iceland-United Kingdom gap was imperative to preserve Blue SLOCs in the Atlantic.
 - Blue CVBGs could not survive in the eastern Mediterranean or Norwegian Seas.
- Amphibious warfare and, therefore, the U.S. Marine Corps, had no role to play in superpower conflict.

Much of the importance of the first Global series, then, was not so much what it tended to prove but in what it led people to question. The questioning attitude developed in that series provided a far sounder foundation on which the participants in the second series could build. Indeed, strategic initiatives pursued at the beginning of the second Global series were, in some instances, options that had been rejected out of hand in the early games.

Finally, the results of the first Global War Game series helped later game players to focus on the right issues. Some of the most important of these issues were:

- What strategies should Blue and its allies develop in waging protracted conventional war?

- What Red targets that would “make a difference” could be attacked by Blue land and carrier-based air power?
- Would offensive operations by Blue in the Norwegian and Barents seas, particularly by SSNs, forestall Red interdiction of Blue SLOCs?
- What Red vulnerabilities were subject to amphibious attack?

The insights gained from the second Global War Game series are very much a matter of the answers to these and similar questions that had their origins in the first Global War Game series, 1979–1983.

Glossary

AAW	Anti-Air Warfare
ACW	Anti-Carrier Warfare
ASAT	Anti-Satellite
ASUW	Anti-Surface Warfare
ASW	Anti-Submarine Warfare
AWACS	Airborne Warning and Control System
Benelux	Belgium, the Netherlands, and Luxembourg
BF	Battle Force
BG	Battle Group
Blue	United States
CINC	Commander in Chief
CINCPAC	Commander in Chief Pacific
CNO	Chief of Naval Operations
COMBALTAP/2 ATAF	Commander Baltic Approaches/Second Allied Tactical Air Force
CPSU	Communist Party of the Soviet Union
CV	Aircraft Carrier
CVBF	Aircraft Carrier Battle Force
CVBG	Aircraft Carrier Battle Group
C ³	Command, Control, and Communications
DEW	Distant Early Warning
<i>Eskadra</i>	Squadron (Russian)
EW	Electronic Warfare
FRG	Federal Republic of Germany
GCI	Ground Controlled Intercept
GDR	German Democratic Republic
GIUK	Greenland-Iceland-United Kingdom
GLCM	Ground-Launched Cruise Missile
GWG	Global War Game
ICBM	Inter-Continental Ballistic Missile
IGB	Inter-German Border
LRA	Long-Range Aviation
MAB	Marine Amphibious Brigade
MPA	Maritime Patrol Air
NATO	North Atlantic Treaty Organization
NCA	National Command Authority
NORTHAG	Northern Army Group
NWC	Naval War College

NWGS	Naval Warfare Gaming System
PACFLT	Pacific Fleet
Pact	Warsaw Pact
PRC	People's Republic of China
RDF	Rapid Deployment Force
Red	Soviet Union
RRP	Rapid Reinforcement Plan
SACEUR	Supreme Allied Commander Europe
SAG	Surface Action Group
SAM	Surface-to-Air Missile
SIOP	Single Integrated Operations Plan
SLOC	Sea Line of Communication
SAF	Soviet Air Force
SNA	Soviet Naval Aviation
SSBN	Ballistic Missile Submarine (Nuclear)
TACAIR	Tactical Air
TACOPS	Theater and Corps Operations and Planning Simulation
TLAM-C	Tomahawk Land Attack Missile-Conventional
TLAM-N	Tomahawk Land Attack Missile-Nuclear
TVD	Theater of Military Operations (Russian: <i>Teatr voennykh del</i>)
USMC	U.S. Marine Corps
VGK	Supreme High Command
VP	Maritime patrol aviation (i.e., VP squadron aircraft)

The Authors

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